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UNITED STATES SECTION **WINTER 1960 - 61**

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ALL K AND W CALLS

CURRENT UNTIL THE NEXT ISSUE, MARCH 1961

IN THIS ISSUE

10,840 NEW LICENSES ISSUED BY FCC SINCE THE FALL 1960 CALLBOOK
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225,000 LICENSED RADIO AMATEURS

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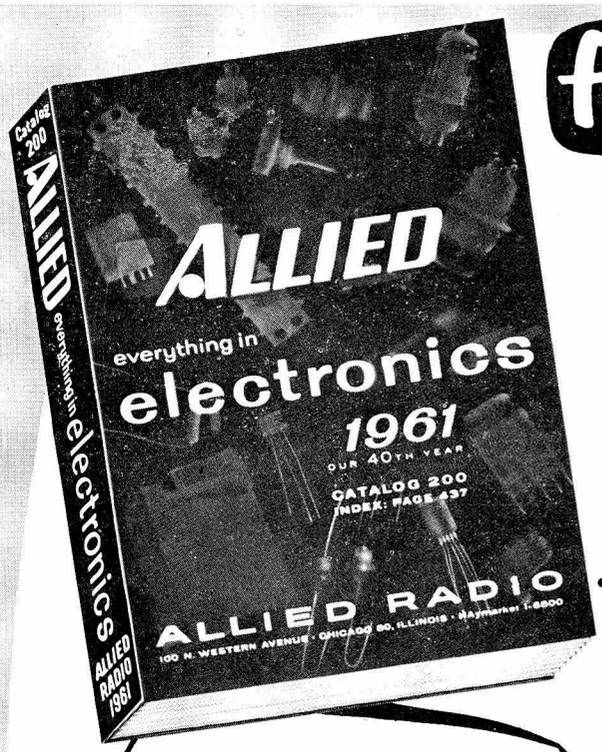

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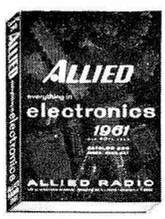

RADIO AMATEUR CALL BOOK

MAGAZINE

known the world over as the "CALLBOOK"

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4844 Fullerton Avenue
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Phone NAtional 2-6616

Publisher and Advertising Manager
HERBERT J. NELSON

Advertising representatives
PAUL and DON WEIL
39-01 Main Street
Flushing 54, New York
Phone INdependence 3-9098

JAMES C. MUNN
2253 Delaware Drive
Cleveland 6, Ohio
Phone ERieview 1-1726

J. BERNARD CASHION & ASSOCIATES
904 Chamber of Commerce Bldg.
Miami 32, Florida
Phone FRanklin 1-9941

Editor
VIRGINIA M. TWOREK

Founder
CHARLES O. STIMPSON, W9TRD

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FIRST CALL AREA 1
Includes the States of Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont.

SECOND CALL AREA 43
Includes the States of New Jersey and New York.

THIRD CALL AREA 118
Includes the States of Delaware, Maryland, Pennsylvania, and the District of Columbia.

FOURTH CALL AREA 159
Includes the States of Alabama, Florida, Georgia, Kentucky, North and South Carolina, Tennessee, and Virginia.

FIFTH CALL AREA 227
Includes the States of Arkansas, Louisiana, Mississippi, New Mexico, Oklahoma and Texas.

SIXTH CALL AREA 280
Includes the State of California.

SEVENTH CALL AREA 349
Includes the States of Arizona, Idaho, Montana, Nevada, Oregon, Utah, Washington and Wyoming.

EIGHTH CALL AREA 385
Includes the States of Michigan, Ohio, and West Virginia.

NINTH CALL AREA 437
Includes the States of Illinois, Indiana and Wisconsin.

TENTH CALL AREA 487
Includes the States of Colorado, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota and South Dakota.

OTHER K CALLS INCLUDING HAWAII AND ALASKA 537

HALLIKITS, we call them—a completely new concept of kit engineering that brings to your workshop, for the first time, these two outstanding advantages:

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- **TUBES AND FUNCTIONS:** 6DQ5 power output; 6CX8 crystal oscillator and driver; 12AX7 speech amplifier; 6DE7 modulator; silicon high voltage rectifiers.
- **FRONT PANEL:** Function (AC off, tune, standby, AM, CW); Band Selector (80, 40, 20, 15, 10, 6); Drive control; Plate tuning, plate loading, Crystal-V.F.O.; Grid Current; Meter; AC indicator light; RF output.
- **REAR CHASSIS:** Microphone gain; antenna co-ax connector; remote control terminals; AC power cord.

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- **TUBES AND FUNCTIONS:** 6AZ8 tuned RF amplifier and crystal calibrator; 6U8 oscillator and mixer; 6BA6 1650 kc. IF amplifier and BFO; 6T8A 2nd detector, A.V.C., ANL and 1st audio; 6AW8A audio power amplifier and S-meter amplifier; (2) silicon high voltage rectifiers.

P.S. *Both units are available fully wired, and tested. SX-140, $109.95. HT-40, $99.95.*

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Official List for ARRL DX CONTEST and Postwar DXCC

The ARRL Postwar Countries List is the official standard used in connection with the ARRL DX competition and the DX Century Club. To qualify for the DX Century Club Award, an applicant must submit confirmations from at least 100 different countries contacted after November 15, 1945, in accordance with the Postwar DXCC Rules. Copies of the DXCC Rules will be furnished by ARRL on request.

AC3	Sikkim
AC4	Tibet
AC5	Bhutan
AP	Pakistan
BV, (C3)	Formosa
BY, (C)	China
C9	Manchuria
CE	Chile
CE9, KC4, LU-Z, VKϕ, VP8, ZL5	Antarctica
CE9	(See VP8)
CEϕA	Easter Island
CEϕZ	Juan Fernandez Archipelago
CM, CO	Cuba
CN2	Tangier Zone
CN2, CN8, CN9	Morocco
CP	Bolivia
CR4	Cape Verde Islands
CR5	Portuguese Guinea
CR5	Principe, Sao Thome
CR6	Angola
CR7	Mozambique
CR8	Goa (Portuguese India)
CR9	Macao
CR10	Portuguese Timor
CT1	Portugal
CT2	Azores
CT3	Madeira Islands
CX	Uruguay
DJ, DL, DM	Germany
DU	Philippine Islands
EA	Spain
EA6	Balearic Islands
EA8	Canary Islands
EA9	Ifni
EA9	Rio de Oro
EA9	Spanish Morocco
EAϕ	Spanish Guinea
EI	Republic of Ireland
EL	Liberia
EP	Iran
ET2	Eritrea
ET3	Ethiopia
F	France
FA	Algeria
FB8	Amsterdam & St. Paul Islands
FB8	Comoro Islands
FB8	Kerguelen Islands
FB8	Malagasy Republic
FB8	Tromelin Island
FC (Unofficial)	Corsica
FD	Togo
FE8	French Cameroons
FF	Dahomey Republic
FF	Mali Federation
FF	Niger Republic
FF	Voltaic Republic
FF4	Ivory Coast
FF7	Mauritania
FF8	French West Africa
FG7	Guadeloupe
FI8	French Indo-China
FK8	New Caledonia
FL8	French Somaliland
FM7	Martinique
FN	French India
FO8	Clipperton Island
FO8	French Oceania
FP8	St. Pierre & Miquelon Islands
FQ	Central African Rep.
FQ	Chad Republic
FQ	Congo Republic
FQ	Gabon Republic
FQ8	French Equatorial Africa
FR7	Reunion Island
FS7	Saint Martin
FU8, YJ1	New Hebrides
FW8	Wallis & Futuna Islands
FY7	French Guiana & Inini
G	England
GC	Channel Islands
GD	Isle of Man
GI	Northern Ireland
GM	Scotland
GW	Wales
HA	Hungary
HB	Switzerland
HC	Ecuador
HC8	Galapagos Islands
HE	Liechtenstein
HH	Haiti
HI	Dominican Republic
HK	Colombia
HKϕ	San Andres and Providencia
HM, HL9	Korea
HP	Panama
HR	Honduras
HS	Thailand
HV	Vatican City
HZ	Saudi Arabia (Hedjaz & Nejd)
I1, IT1	Italy
I1	Trieste
I5	Italian Somaliland
IS1	Sardinia
JA, KA	Japan
JT1	Mongolia
JY	Jordan
JZϕ	Netherlands New Guinea
K, W	United States of America
KA	(See JA)
KAϕ, KG6I	Bonin & Volcano Islands
KB6	Baker, Howland & American Phoenix Islands
KC4	(See CE9)
KC4	Navassa Island
KC6	Eastern Caroline Islands
KC6	Western Caroline Islands
KG1	(See OX)
KG4	Guantanamo Bay
KG6	Marcus Island
KG6	Mariana Islands
KG6I	(See KAϕ)
KH6	Hawaiian Islands
KJ6	Johnston Island
KL7	Alaska
KM6	Midway Islands
KP4	Puerto Rico
KP6	Palmyra Group, Jarvis Island
KR6	Ryukyu Islands
KS4B	Serrana Bank & Roncador Cay
KS4	Swan Islands
KS6	American Samoa
KV4	Virgin Islands
KW6	Wake Island
KX6	Marshall Islands
KZ5	Canal Zone
LA	Jan Mayen
LA	Norway
LA	Svalbard
LU	Argentina
LU-Z	(See CE9)
LX	Luxembourg
LZ	Bulgaria
M1	San Marino
MP4	Bahrein
MP4	Qatar
MP4	Trucial Oman
OA	Peru
OD5	Lebanon
OE	Austria
OH	Finland
OHϕ	Aland Islands
OK	Czechoslovakia
ON4	Belgium
OQ5, ϕ	(See 9Q5)
OX, KG1	Greenland
OY	Faeroes
OZ	Denmark
PAϕ, PI1	Netherlands
PJ	Netherlands West Indies
PJ2M	Sint Maarten
PK1, 2, 3	Java
PK4	Sumatra
PK5	Netherlands Borneo
PK6	Celebes & Molucca Islands
PX	Andorra
PY	Brazil
PYϕ	Fernando de Noronha
PYϕ	Trindade & Martim Vaz Islands
PZ1	Netherlands Guiana
SL, SM	Sweden
SP	Poland
ST2	Sudan
SU	Egypt
SV	Crete
SV	Dodecanese
SV	Greece
TA	Turkey
TF	Iceland
TG	Guatemala
TI	Costa Rica
TI9	Cocos Island
UA1-6, UN1	European Russian Socialist Federated Soviet Republic
UA1	Franz Josef Land
UA9, ϕ	Asiatic Russian S.F.S.R.
UB5	Ukraine
UC2	White Russian Soviet Socialist Republic
UD6	Azerbaijan
UF6	Georgia
UG6	Armenia
UH8	Turkoman
UI8	Uzbek
UJ8	Tadzhik
UL7	Kazakh
UM8	Kirghiz
UN1	Karelo-Finnish Republic
UO5	Moldavia
UP2	Lithuania
UQ2	Latvia
UR2	Estonia
VE, VO	Canada
VK	Australia (including Tasmania)
VK	Lord Howe Island
VK4	Willis Islands
VK9, ZC3	Christmas Island
VK9	Cocos Islands
VK9	Nauru Island
VK9	Norfolk Island
VK9	Papua Territory
VK9	Territory of New Guinea
VKϕ	(See CE9)
VKϕ	Heard Island
VKϕ	Macquarie Island
VO	(See VE)
VP1	British Honduras
VP2	Anguilla
VP2	Antigua, Barbuda
VP2	British Virgin Islands
VP2	Dominica
VP2	Grenada & Dependencies
VP2	Montserrat
VP2	St. Kitts, Nevis
VP2	St. Lucia
VP2	St. Vincent & Dependencies
VP3	British Guiana
VP4	Trinidad & Tobago
VP5	Cayman Islands
VP5	Jamaica
VP5	Turks & Caicos Islands
VP6	Barbados
VP7	Bahama Islands
VP8	(See CE9)
VP8	Falkland Islands
VP8, LU-Z	South Georgia
VP8, LU-Z	South Orkney Islands
VP8, LU-Z	South Sandwich Islands
VP8, LU-Z, CE9	South Shetland Islands
VP9	Bermuda Islands
VQ1	Zanzibar
VQ2	Northern Rhodesia
VQ3	Tanganyika Territory
VQ4	Kenya
VQ5	Uganda
VQ6	British Somaliland
VQ8	Cargadas Carajos
VQ8	Chagos Islands
VQ8	Mauritius
VQ8	Rodriguez Island
VQ9	Seychelles
VR1	British Phoenix Islands
VR1	Gilbert & Ellice Islands & Ocean Island
VR2	Fiji Islands
VR3	Fanning & Christmas Islands
VR4	Solomon Islands
VR5	Tonga Islands
VR6	Pitcairn Island
VS1	Singapore
VS2	(See 9M2)
VS4	Sarawak
VS5	Brunei
VS6	Hong Kong
VS9	Aden & Socotra
VS9	Maldive Islands
VS9	Sultanate of Oman
VU	Andaman and Nicobar Islands
VU	India
VU	Laccadive Islands
W, K	United States of America
XE, XF	Mexico
XE4	Revilla Gigedo
XV5	(See 3W8)
XW8	Laos
XZ2	Burma
YA	Afghanistan
YI	Iraq
YJ	(See FU8)
YK	Syria
YN, YNϕ	Nicaragua
YO	Roumania
YS	Salvador
YU	Yugoslavia
YV	Venezuela
YVϕ	Aves Island
ZA	Albania
ZB1	Malta
ZB2	Gibraltar
ZC3	(See VK9)
ZC4	Cyprus
ZC5	British North Borneo
ZC6	Palestine
ZD1	Sierra Leone
ZD2	Nigeria
ZD3	Gambia
ZD4	(See 9G1)
ZD4	Gold Coast, Togoland
ZD6	Nyasaland
ZD7	St. Helena
ZD8	Ascension Island
ZD9	Tristan da Cunha & Gough Island
ZE	Southern Rhodesia
ZK1	Cook Islands
ZK1	Manihiki Islands
ZK2	Niue
ZL	Auckland & Campbell Islands
ZL	Kermadec Islands
ZL	New Zealand
ZL5	(See CE9)
ZM6	British Samoa
ZM7	Tokelaus
ZP	Paraguay
ZS1, 2, 4, 5, 6	Union of South Africa
ZS2	Prince Edward & Marion Islands
ZS3	Southwest Africa
ZS7	Swaziland
ZS8	Basutoland
ZS9	Bechuanaland
3A	Monaco
3V8	Tunisia
3W8, XV5	Vietnam
4S7	Ceylon
4W1	Yemen
4X4	Israel
5A	Libya
6O1, 2	Somali Republic
7G1	Republic of Guinea
9G1, ZD4	Ghana
9K2	Kuwait
9M2	Malaya
9N1	Nepal
9Q5, OQ5, ϕ	Republic of the Congo
9S4	Saar
9U5	Ruanda-Urundi
	Aldabra Islands
	Cambodia

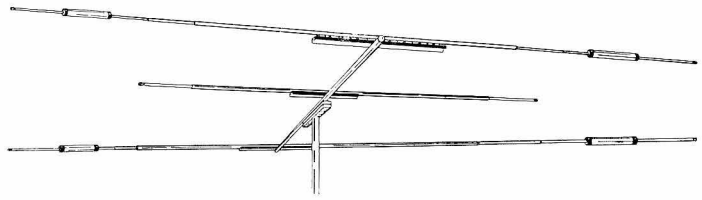
1+1=NEW!

TWO NEW ANTENNAS FROM MOSLEY

Yes . . . NEW! The latest result of research by the excellent engineering staff of growing Mosley Electronics, Incorporated.

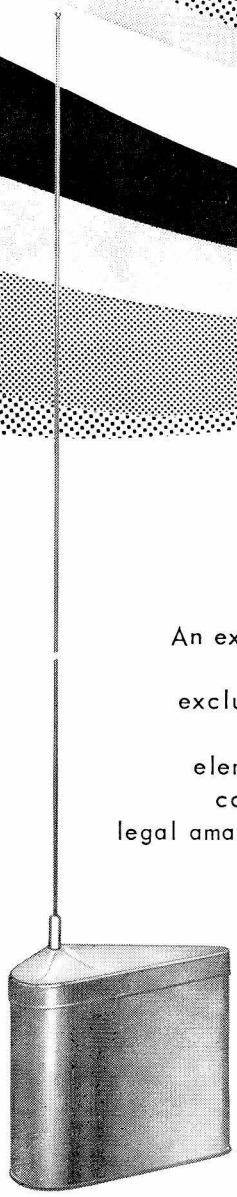
Built for those radio amateurs who will not accept less than the finest, these antennas are just two models in the most complete line of amateur communication arrays in the world - designed, engineered and manufactured by Mosley!

TA·20·40



An extraordinary antenna, the Mosley TA-20-40 offers performance to satisfy the perfectionist. Frequency selection is accomplished by means of exclusive design, high impedance parallel-resonant "trap-circuits". Automatic band selection is achieved by a simple phasing network that permits fewer elements with a consequent reduction in weight and wind load. Fully rust and corrosion proof, frequency stability in all weather, and operation at maximum legal amateur power are but a few of the exclusive design and construction features.

Amateur Net, $337.50



autowhip TM-5 for 10·15·20·40·80

. . . the 5 band mobile antenna with excellent radiating efficiency that changes bands without switches! Fully automatic electronic switching by means of simple series and parallel resonant trap circuits. These precision made, series-tuned traps improve SWR on the 10-15-20 and 40 meter bands and a parallel network achieves near unity on 80 meters. Team the TM-5 with your 5 band mobile transmitter or transceiver for mobile operation at its best!

Amateur Net, $69.95

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Los Angeles 15, California

INTERNATIONAL DIVISION
15 Moore Street
New York 4, New York

INTERNATIONAL RADIO AMATEUR PREFIXES

The following prefixes are listed in alphabetical order for convenience in locating the country when DX calls are heard.

AC3	SIKKIM
AC4	TIBET
AC5	BHUTAN
AP	PAKISTAN
BV	FORMOSA
BY, (C)	CHINA
C9	MANCHURIA
CE	CHILE
CM-CO	CUBA
CN	MOROCCO
CN9	MOROCCO (Zona Norte)
CP	BOLIVIA
CR4	CAPE VERDE ISLANDS
CR5	PORTUGUESE GUINEA
CR6	ANGOLA
CR7	MOZAMBIQUE
CR8	GOA (Portuguese India)
CR9	MACAO
CR10	TIMOR ISLAND (Port.)
CT1	PORTUGAL
CT2	AZORES ISLANDS
CT3	MADEIRA ISLANDS
CX	URUGUAY
DL	GERMANY
DU	PHILIPPINE ISLANDS
EA	SPAIN
EA6	BALEARIC ISLANDS
EA8	CANARY ISLANDS
EA9	SPANISH SAHARA
EAϕ	SPANISH GUINEA
EI	IRELAND
EL	LIBERIA
EP	IRAN
ET2	ERITREA
ET3	ETHIOPIA
F	FRANCE
FA	ALGERIA
FB8	MADAGASCAR
FC	CORSICA
FD8	TOGO
FE8	CAMEROONS
FF4	IVORY COAST
FF5	DAHOMEY
FF6	UPPER VOLTA
FF7	MAURITANIA
FF8	MALI REPUBLIC
FF9	NIGER
FG7	GUADELOUPE
FK8	NEW CALEDONIA
FL8	FRENCH SOMALILAND
FM7	MARTINIQUE
FO8	FRENCH OCEANIA
FP8	MIQUELON & ST. PIERRE IS.
FQ8	MIDDLE CONGO
FR7	REUNION ISLAND
FS7	SAINT MARTIN
FU8	NEW HEBRIDES
FW8	WALLIS & FUTUNA ISLANDS
FY7	FRENCH GUIANA
G	ENGLAND
GC	CHANNEL ISLANDS
GD	ISLE OF MAN
GI	NORTHERN IRELAND
GM	SCOTLAND
GW	WALES
HA	HUNGARY
HB	SWITZERLAND
HC	ECUADOR
HC8	GALAPAGOS ISLANDS
HE9L	LIECHTENSTEIN
HH	HAITI
HI	DOMINICAN REPUBLIC
HK	COLOMBIA
HM, HL9	KOREA
HP	PANAMA
HR	HONDURAS
HS	THAILAND
HV	VATICAN CITY
HZ	SAUDI ARABIA
I	ITALY
IS	SARDINIA
IT	SICILY
JA	JAPAN
JT1	MONGOLIA
JY	JORDAN
JZϕ	NETHERLANDS NEW GUINEA
K	UNITED STATES
KA	U. S. PERSONNEL IN JAPAN
KAϕ	IWO JIMA ISLAND
KB6	BAKER, CANTON, ENDERBURY, HOWLAND & PHOENIX ISLANDS
KC4US	ANTARTICA
KC6	CAROLINE ISLANDS
KG1	U. S. PERSONNEL IN GREENLAND
KG4	GUANTANAMO BAY, CUBA
KG6	MARIANAS ISLANDS (Guam)
KG6I	BONIN ISLANDS
KG6S	SAIPAN ISLAND
KG6T	TINIAN ISLAND
KH6	HAWAIIAN ISLANDS
KJ6	JOHNSTON ISLAND
KL7	ALASKA
KM6	MIDWAY ISLAND
KP4	PUERTO RICO
KP6	PALMYRA & JARVIS ISLANDS
KR6	RYUKYU ISLANDS
KS4	SWAN ISLAND
KS6	U. S. SAMOA
KV4	VIRGIN ISLANDS
KW6	WAKE ISLAND
KX6	MARSHALL ISLANDS
KZ5	CANAL ZONE
LA	NORWAY
LU	ARGENTINA
LX	LUXEMBOURG
LZ	BULGARIA
M1	SAN MARINO
MP4	MASQAT & OMAN
OA	PERU
OD5	LEBANON
OE	AUSTRIA
OH	FINLAND
OHϕ	ALAND ISLANDS
OK	CZECHOSLOVAKIA
ON	BELGIUM
OX	GREENLAND
OY	FAEROES ISLANDS
OZ	DENMARK
PA, PI	NETHERLANDS
PJ	NETHERLANDS ANTILLES
PK	INDONESIA
PX	ANDORRA
PY	BRAZIL
PYϕ	TRINDADE & MARTIM ISLANDS
PZ	SURINAM
SL, SM	SWEDEN
SP	POLAND
ST	SUDAN
SU	EGYPT
SV	CRETE & GREECE
SV5	DODECANESE ISLANDS
TA	TURKEY
TF	ICELAND
TG	GUATEMALA
TI	COSTA RICA
TI9	COCOS ISLAND
UA1-3-4-6	EUROPEAN RUSSIAN SOCIALIST FEDERATED SOVIET REPUBLIC
UA9-ϕ	ASIATIC RUSSIAN S. F. S. R.
UB5	UKRAINE
UC2	WHITE RUSSIAN S.S.R.
UD6	AZERBAIJAN
UF6	GEORGIA
UG6	ARMENIA
UH8	TURKOMAN
UI8	UZBEK
UJ8	TADZHIK
UL7	KAZAKH
UM8	KIRGHIZ
UN1	KARELO-FINNISH REPUBLIC
UO5	MOLDAVIA
UP	LITHUANIA
UQ	LATVIA
UR	ESTONIA
VE	CANADA
VK	AUSTRALIA
VK2	LORD HOWE ISLAND
VK7	TASMANIA
VK9	PAPUA TERRITORY
VO1	NEWFOUNDLAND
VO2	LABRADOR
VP1	BRITISH HONDURAS
VP2	FEDERATION OF BRITISH TERRITORIES IN THE CARIBBEAN
VP3	BRITISH GUIANA
VP4	TRINIDAD & TOBAGO IS.
VP5	JAMAICA, CAYMAN, TURKS & CAICOS IS.
VP6	BARBADOS
VP7	BAHAMA ISLANDS
VP8	FALKLAND ISLANDS South Georgia, South Orkney and South Shetland Islands.
VP9	BERMUDA ISLANDS
VQ1	ZANZIBAR
VQ2	NORTHERN RHODESIA
VQ3	TANGANYIKA
VQ4	KENYA
VQ5	UGANDA
VQ8	CHAGOS & MAURITIUS ISLANDS
VQ9	SEYCHELLES
VR1	GILBERT, ELLICE & OCEAN ISLANDS
VR2	FIJI ISLANDS
VR3	LINE ISLANDS
VR4	SOLOMON ISLANDS
VR5	TONGA (Friendly) ISLAND
VR6	PITCAIRN ISLAND
VS1	SINGAPORE
VS4	SARAWAK
VS5	BRUNEI
VS6	HONG KONG
VS9	ADEN & SOCOTRA ISLANDS
VU	INDIA
VU4	LACCADIVE ISLANDS
VU5	ANDAMAN ISLANDS
W	UNITED STATES
XE	MEXICO
XW8	LAOS
XZ	BURMA
YA	AFGHANISTAN
YI	IRAQ
YJ	NEW HEBRIDES
YK	SYRIA
YN	NICARAGUA
YO	RUMANIA
YS	EL SALVADOR
YT, YU	YUGOSLAVIA
YV	VENEZUELA
ZA	ALBANIA
ZB1	MALTA
ZB2	GIBRALTAR
ZC3	CHRISTMAS ISLAND
ZC4	CYPRUS
ZC5	BRITISH NORTH BORNEO
ZD1	SIERRA LEONE
ZD2	NIGERIA
ZD3	GAMBIA
ZD6	NYASALAND
ZD7	SAINT HELENA
ZD8	ASCENSION ISLAND
ZD9	TRISTAN DA CUNHA & GOUGH ISLANDS
ZE	SOUTHERN RHODESIA
ZK1	COOK ISLANDS
ZK2	NIUE
ZL	NEW ZEALAND
ZL1	KERMADEC
ZM	WESTERN SAMOA
ZP	PARAGUAY
ZS	UNION OF SOUTH AFRICA
ZS3	SOUTHWEST AFRICA
ZS7	SWAZILAND
ZS8	BASUTOLAND
ZS9	BECHUANALAND
3A2	MONACO
3V8	TUNISIA
3W8	VIETNAM
4S7	CEYLON
4W1	YEMEN
4X4	ISRAEL
5A	LIBYA
6O	SOMALI REPUBLIC
7G1	REPUBLIC OF GUINEA
9G1	GHANA
9K2	KUWAIT
9M2	FEDERATION OF MALAYA
9N1	NEPAL
9Q5	CONGO REPUBLIC
9U5	RUANDA-URUNDI

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PREFIXES—BY COUNTRIES

The following countries listed in alphabetical order by country show international radio amateur prefixes. Characters in ( ) designate the continent and zone in which the country is located. Abbreviations are as follows: A—Asia, AF—Africa, E—Europe, NA—North America, O—Oceania, SA—South America.

ADEN	(A-21)	VS9
AFGHANISTAN	(A-21)	YA
ALAND ISLANDS	(E-14)	OHϕ
ALASKA	(NA-1)	KL7
ALBANIA	(E-15)	ZA
ALGERIA	(AF-33)	FA
AMSTERDAM & ST. PAUL IS.	(AF-39)	FB8
ANDAMAN & NICOBAR ISLANDS	(A-26)	VU5
ANDORRA	(E-14)	PX
ANGLO-EGYPTIAN SUDAN	(AF-34)	ST
ANGOLA	(AF-36)	CR6
ANGUILLA	(NA-8)	VP2
ANTARTICA	(SA-13)	KC4US
ANTIGUA, BARBUDA	(NA-8)	VP2
ARGENTINA	(SA-13)	LU
ASCENSION ISLAND	(AF-36)	ZD8
AUSTRALIA	(O-29 & 30)	VK
AUSTRIA	(E-15)	OE
AZORES ISLANDS	(E-14)	CT2
BAHAMA ISLANDS	(NA-8)	VP7
BAHREIN ISLANDS	(A-21)	MP4
BAKER ISLAND	(O-31)	KB6
BALEARIC ISLANDS	(E-14)	EA6
BARBADOS	(NA-8)	VP6
BASUTOLAND	(AF-38)	ZS8
BECHUANALAND	(AF-38)	ZS9
BELGIUM	(E-14)	ON
BERMUDA ISLANDS	(NA-5)	VP9
BHUTAN	(A-22)	AC5
BOLIVIA	(SA-10)	CP
BONIN & VOLCANO ISLANDS	(O-27)	KAϕ, KG6I
BRAZIL	(SA-11)	PY
BRITISH GUIANA	(SA-9)	VP3
BRITISH HONDURAS	(NA-7)	VP1
BRITISH NORTH BORNEO	(A-28)	ZC5
BRITISH PHOENIX ISLANDS	(O-31)	VR1
BRITISH TERRITORIES IN THE CARIBBEAN, FED. OF	(NA-8)	VP2
BRITISH VIRGIN ISLANDS	(NA-8)	VP2
BRUNEI	(O-28)	VS5
BULGARIA	(E-20)	LZ
BURMA	(A-26)	XZ
CAMEROONS	(AF-36)	FE8
CANADA	(NA-1 to 5)	VE
CANAL ZONE	(NA-7)	KZ5
CANARY ISLANDS	(AF-33)	EA8
CANTON ISLAND	(O-31)	KB6
CAPE VERDE ISLANDS	(AF-35)	CR4
CAROLINE ISLANDS	(O-27)	KC6
CAYMAN ISLANDS	(NA-8)	VP5
CELEBES & MOLUCCA ISLANDS	(A-28)	PK6
CEYLON	(A-22)	4S7
CHAGOS ISLANDS	(AF-39)	VQ8
CHANNEL ISLANDS	(E-14)	GC
CHILE	(SA-12)	CE
CHINA	(A-23 & 24)	C
CHRISTMAS ISLAND	(O-29)	ZC3
CLIPPERTON ISLAND	(NA-7)	FO8
COCOS ISLAND	(NA-7)	TI9
COLOMBIA	(SA-9)	HK
COMORO ISLANDS	(AF-39)	FB8
CONGO, MIDDLE	(AF-36)	FQ8
CONGO REPUBLIC	(AF-36)	9Q5
COOK ISLANDS	(O-32)	ZK1
CORSICA	(E-15)	FC
COSTA RICA	(NA-7)	TI
CRETE	(E-20)	SV
CUBA	(NA-8)	CM, CO
CYPRUS	(A-20)	ZC4
CZECHOSLOVAKIA	(E-15)	OK
DAHOMEY	(AF-35)	FF5
DENMARK	(E-14)	OZ
DODECANESE ISLANDS	(E-20)	SV5
DOMINICA	(NA-8)	VP2
DOMINICAN REPUBLIC	(NA-8)	HI
EASTER ISLAND	(SA-12)	CEϕA
ECUADOR	(SA-10)	HC
EGYPT	(AF-34)	SU
EL SALVADOR	(NA-7)	YS
ENDERBURY ISLAND	(O-31)	KB6
ENGLAND	(E-14)	G
ERITREA	(AF-37)	ET2
ETHIOPIA	(AF-37)	ET3
FAEROES ISLANDS	(E-14)	OY
FALKLAND ISLANDS	(SA-13)	VP8
FANNING ISLAND	(O-31)	VR3
FERNANDO DE NORONHA	(SA-11)	PYϕ
FIJI ISLANDS	(O-32)	VR2
FINLAND	(E-15)	OH
FORMOSA	(A-24)	BV
FRANCE	(E-14)	F
FRENCH CAMEROONS	(AF-36)	FE8
FRENCH GUIANA	(SA-9)	FY7
FRENCH OCEANIA	(O-32)	FO8
FRENCH SOMALILAND	(A-37)	FL8
GALAPAGOS ISLANDS	(SA-10)	HC8
GAMBIA	(AF-35)	ZD3
GERMANY	(E-14)	DL
GHANA	(AF-35)	9G1
GIBRALTAR	(E-14)	ZB2
GILBERT ISLANDS	(O-31)	VR1
GOA (Portuguese India)	(A-22)	CR8
GREECE	(E-20)	SV
GREENLAND	(NA-40)	OX
GUADELOUPE	(NA-8)	FG7
GUAM	(O-27)	KG6
GUANTANAMO BAY	(NA-8)	KG4
GUATEMALA	(NA-7)	TG
GUIANA, BRITISH	(SA-9)	VP3
GUIANA, FRENCH	(SA-9)	FY7
GUIANA, NETHERLANDS	(SA-9)	PZ
GUINEA, PORTUGUESE	(AF-35)	CR5
GUINEA, REPUBLIC OF	(AF-35)	7G1
HAITI	(NA-8)	HH
HAWAIIAN ISLANDS	(O-31)	KH6
HEARD ISLAND	(O-39)	VKϕ
HONDURAS	(NA-7)	HR
HONG KONG	(A-24)	VS6
HOWLAND ISLAND	(O-31)	KB6
HUNGARY	(E-15)	HA
ICELAND	(E-40)	TF
IFNI	(A-33)	EA9
INDIA	(A-22)	VU
INDONESIA	(A-28)	PK
IRAN	(A-21)	EP
IRAQ	(A-21)	YI
IRELAND	(E-14)	EI
ISLE OF MAN	(E-14)	GD
ISRAEL	(A-20)	4X4
ITALY	(E-15)	I
IVORY COAST	(AF-35)	FF4
IWO JIMA ISLAND	(O-27)	KAϕ
JAMAICA	(NA-8)	VP5
JAN MAYEN ISLAND	(E-40)	OY
JAPAN	(A-25)	JA
JARVIS ISLAND	(O-31)	KP6
JOHNSTON ISLAND	(O-31)	KJ6
JORDAN	(A-20)	JY
JUAN FERNANDEZ ARCHIPELAGO	(SA-12)	CEϕZ
KENYA	(AF-37)	VQ4
KERGUELEN ISLANDS	(AF-39)	FB8
KERMADEC ISLANDS	(0-32)	ZL1
KOREA	(A-25)	HM
KUWAIT	(A-21)	9K2
LABRADOR	(NA-2)	VO2
LACCADIVE ISLANDS	(A-22)	VU4
LAOS	(A-26)	XW8
LEBANON REPUBLIC	(A-20)	OD5
LEEWARD ISLANDS	(NA-8)	VP2
LIBERIA	(AF-35)	EL
LIBYA	(AF-34)	5A
LIECHTENSTEIN	(E-14)	HE9L
LINE ISLANDS	(O-31)	VR3
LITTLE AMERICA	(SA-13)	KC4
LORD HOWE ISLAND	(O-30)	VK2
LUXEMBOURG	(E-14)	LX
MACAO	(A-24)	CR9
MACQUARIE ISLAND	(O-30)	VKϕ
MADAGASCAR	(AF-39)	FB8
MADEIRA ISLANDS	(AF-33)	CT3
MALAYA, FEDERATION OF	(A-28)	9M2
MALDIVE ISLANDS	(A-22)	VS9
MALI REPUBLIC (Senegal)	(AF-35)	FF8
MALTA	(E-15)	ZB1
MANCHURIA	(A-24)	C9
MARIANAS ISLANDS (Guam)	(O-27)	KG6
MARSHALL ISLANDS	(O-31)	KX6
MARTINIQUE	(NA-8)	FM7
MASQAT & OMAN	(A-21)	MP4
MAURITANIA	(AF-35)	FF7
MAURITIUS	(AF-39)	VQ8
MEXICO	(NA-6)	XE
MIDWAY ISLAND	(O-31)	KM6
MIQUELON ISLAND	(NA-5)	FP8
MONACO	(E-14)	3A2
MONGOLIA	(A-23)	JT1
MONTSERRAT	(NA-8)	VP2
MOROCCO	(AF-33)	CN
MOROCCO (Zona Norte)	(AF-33)	CN9
MOZAMBIQUE	(AF-37)	CR7
NAURU ISLAND	(O-31)	VK9
NAVASSA ISLAND	(NA-8)	KC4
NEPAL	(A-22)	9N1
NETHERLANDS	(E-14)	PA, PI
NETHERLANDS ANTILLES	(SA-9)	PJ
NETHERLANDS BORNEO	(A-28)	PK5
NETHERLANDS NEW GUINEA	(A-28)	JZϕ
NEW CALEDONIA	(O-32)	FK8
NEWFOUNDLAND	(NA-5)	VO1
NEW GUINEA, Territory of	(O-28)	VK9
NEW HEBRIDES	(O-32)	FU8, YJ
NEW ZEALAND	(O-32)	ZL
NICARAGUA	(NA-7)	YN
NIGER	(AF-35)	FF9
NIGERIA	(AF-35)	ZD2
NIUE	(O-32)	ZK2
NORFOLK ISLAND	(O-32)	VK9
NORTHERN IRELAND	(E-14)	GI
NORWAY	(E-14)	LA
NYASALAND	(AF-37)	ZD6
OKINAWA	(A-25)	KR6
OMAN	(A-21)	MP4
PAKISTAN	(A-21, 22)	AP
PALMYRA ISLANDS	(O-31)	KP6
PANAMA	(NA-7)	HP
PAPUA TERRITORY	(O-28)	VK9
PARAGUAY	(SA-11)	ZP
PERU	(SA-10)	OA
PHILIPPINE ISLANDS	(O-27)	DU
PHOENIX ISLANDS	(O-31)	KB6
PITCAIRN ISLAND	(O-32)	VR6
POLAND	(E-15)	SP
PORTUGAL	(E-14)	CT1
PORTUGUESE GUINEA	(A-35)	CR5
PRINCE EDWARD & MARION ISLANDS	(AF-38)	ZS2
PUERTO RICO	(NA-8)	KP4
QATAR	(A-21)	MP4
REUNION ISLAND	(AF-39)	FR7
REVILLA GIGEDO	(NA-6)	XE4
RHODESIA, NORTHERN	(AF-36)	VQ2
RHODESIA, SOUTHERN	(AF-38)	ZE
RIO DE ORO	(A-33)	EA9
RODRIGUEZ ISLAND	(AF-39)	VQ8
RUANDA-URUNDI	(A-36)	9U5
RUMANIA	(E-20)	YO
RYUKYU ISLANDS	(A25)	KR6
SAINT HELENA	(AF-36)	ZD7
SAINT KITTS, NEVIS	(NA-8)	VP2
SAINT LUCIA	(NA-8)	VP2
SAINT MARTIN	(NA-8)	FS7
SAINT PIERRE ISLAND	(NA-5)	FP8
SAINT VINCENT & DEPENDENCIES	(NA-8)	VP2
SAIPAN ISLAND	(O-27)	KG6S
SALVADOR	(NA-7)	YS
SAMOA (U.S.)	(O-32)	KS6
SAMOA (Western)	(O-32)	ZM
SAN ANDRES & PROVIDENCIA	(NA-7)	HKϕ
SAN MARINO	(E-15)	M1
SARAWAK	(O-28)	VS4
SARDINIA	(E-15)	IS
SAUDI ARABIA	(A-21)	HZ
SCOTLAND	(E-14)	GM
SERRANA BANK & RONCADOR CAY	(NA-7)	KS4B
SEYCHELLES	(AF-39)	VQ9
SICILY	(E-15)	IT
SIERRA LEONE	(AF-35)	ZD1
SIKKIM	(A-22)	AC3
SINGAPORE	(A-28)	VS1
SINT MAARTEN	(NA-8)	PJ2M
SOCOTRA ISLAND	(A-37)	VS9
SOLOMON ISLANDS	(O-28)	VR4
SOMALI REPUBLIC	(AF-37)	6O
SOMALILAND, French	(AF-37)	FL8
SOUTH GEORGIA	(SA-13)	VP8
SOUTH ORKNEY ISLANDS	(SA-13)	VP8
SOUTH SANDWICH ISLANDS	(SA-13)	VP8
SOUTH SHETLAND ISLANDS	(SA-13)	VP8
SOUTHWEST AFRICA	(AF-38)	ZS3
SOVIET UNION:		
EUROPEAN RUSSIAN SOCIALIST FEDERATED SOVIET REP.	(E-16)	UA1, 3, 4, 6
ASIATIC RUSSIAN S.F.S.R.	(A-18, 19)	UA9, ϕ
UKRAINE	(E-16)	UB5
WHITE RUSSIAN S.S.R.	(E-16)	UC2
AZERBAIJAN	(E-21)	UD6
GEORGIA	(E-21)	UF6
ARMENIA	(E-21)	UG6
TURKOMAN	(A-17)	UH8
UZBEK	(A-17)	UI8
TADZHIK	(A-17)	UJ8
KAZAKH	(A-17)	UL7
KIRGHIZ	(A-17)	UM8
KARELO-FINNISH REP.	(E-16)	UN1
MOLDAVIA	(E-16)	UO5
LITHUANIA	(E-15)	UP
LATVIA	(E-15)	UQ
ESTONIA	(E-15)	UR
SPAIN	(E-14)	EA
SPANISH GUINEA	(AF-36)	EAϕ
SPANISH SAHARA	(A-33)	EA9
SUDAN	(AF-34)	ST
SUMATRA	(A-28)	PK4
SURINAM	(SA-9)	PZ
SVALBARD	(NA-40)	LA
SWAN ISLAND	(NA-7)	KS4
SWAZILAND	(AF-38)	ZS7
SWEDEN	(E-14)	SL, SM
SWITZERLAND	(E-14)	HB
SYRIA	(A-20)	YK
TANGANYIKA	(AF-37)	VQ3
TASMANIA	(O-30)	VK7
THAILAND	(A-26)	HS
TIBET	(A-23)	AC4
TIMOR, Portuguese	(O-28)	CR10
TINIAN ISLAND	(O-27)	KG6T
TOGO	(AF-35)	FD8
TONGA (Friendly) ISLANDS	(O-32)	VR5
TRIESTE	(E-15)	I1
TRINDADE & MARTIM ISLANDS	(SA-11)	PYϕ
TRINIDAD & TOBAGO	(SA-9)	VP4
TRISTAN da CUNHA & GOUGH ISLANDS	(AF-38)	ZD9
TROMELIN ISLAND	(AF-39)	FB8
TRUCIAL OMAN	(A-21)	MP4
TUNISIA	(AF-33)	3V8
TURKEY	(A-20)	TA
TURKS & CAICOS ISLANDS	(NA-8)	VP5
UGANDA	(AF-37)	VQ5
UNION OF SOUTH AFRICA	(AF-38)	ZS
UNITED STATES of AMERICA	(NA-3, 4, 5)	W, K
UPPER VOLTA	(AF-35)	FF6
URUGUAY	(SA-13)	CX
VATICAN CITY	(E-15)	HV
VENEZUELA	(SA-9)	YV
VIETNAM	(A-26)	3W8
VIRGIN ISLANDS	(NA-8)	KV4
WAKE ISLAND	(O-31)	KW6
WALES	(E-14)	GW
WALLIS & FUTUNA ISLANDS	(O-32)	FW8
WINDWARD ISLANDS	(NA-8)	VP2
YEMEN	(A-21)	4W1
YUGOSLAVIA	(E-15)	YT, YU
ZANZIBAR	(AF-37)	VQ1

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POSTAL INFORMATION

Below are postal rates for QSL cards, first class letters and air mail to United States Possessions and foreign countries.

First class rates are the rate for the first ounce. If the rate indicated is 8¢, add 5¢ for each additional ounce or fraction; if the rate indicated is 4¢, add 4¢ for each additional ounce or fraction.

Air mail rates are the rate for each half ounce, except where indicated.

International reply coupons may be purchased at any United States Post Office. Upon presentation at a post office in any country, these coupons are convertible into postage stamps of that country. The column marked "RP" shows the number of international reply coupons required to prepay an air mail letter of the first weight unit from the countries indicated to the United States.

COUNTRY	QSL cards	First class	Air mail	RP
ADEN	$.05	$.08	$.25	9
AFGHANISTAN	.05	.08	.25	5
ALASKA	.03	.04	.07*	
ALBANIA	.05	.08	.15	2
ALGERIA	.05	.08	.15	3
ANDORRA	.05	.08	.15	8
ANGLO-EGYPTIAN SUDAN	.05	.08	.25	4
ANGOLA	.05	.08	.25	3
ANGUILLA	.05	.08	.10	2
ANTIGUA	.05	.08	.10	2
ARGENTINA	.05	.08	.10	5
ARUBA	.05	.08	.10	2
ASCENSION ISLAND	.05	.08	.15	
AUSTRALIA	.05	.08	.25	4
AUSTRIA	.05	.08	.15	2
AZORES	.05	.08	.15	2
BAHAMAS	.05	.08	.10	2
BAHREIN ISLANDS	.05	.08	.25	4
BALEARIC ISLANDS	.05	.08	.15	3
BALUCHISTAN	.05	.08	.25	5
BARBADOS	.05	.08	.10	3
BARBUDA	.05	.08	.10	2
BECHUANALAND	.05	.08	.25	6
BELGIAN CONGO	.05	.08	.25	2
BELGIUM	.05	.08	.15	2
BERMUDA	.05	.08	.10	2
BOLIVIA	.05	.08	.10	2
BRAZIL	.05	.08	.10	3
BRITISH CAMEROONS	.05	.08	.25	6
BRITISH GUIANA	.05	.08	.10	2
BRITISH HONDURAS	.05	.08	.10	2
BRITISH SOMALILAND	.05	.08	.25	8
BR. VIRGIN ISLANDS	.05	.08	.10	3
BRUNEI	.05	.08	.25	7
BULGARIA	.05	.08	.15	3
BURMA	.05	.08	.25	5
CANADA	.03	.04	.07*	2
CANAL ZONE	.03	.04	.07*	
CANARY ISLANDS	.05	.08	.15	3
CANTON ISLAND	.03	.04	.07*	
CAPE VERDE ISLANDS	.05	.08	.25	3
CAYMAN ISLANDS	.05	.08	.10	3
CEYLON	.05	.08	.25	5
CHILE	.05	.08	.10	7
CHINA	.05	.08	.25	3
COLOMBIA	.05	.08	.10	5
COOK ISLANDS	.05	.08	.25	6
CORSICA	.05	.08	.15	2
COSTA RICA	.05	.08	.10	3
CUBA	.05	.08	.10	4
CURACAO	.05	.08	.10	2
CYPRUS	.05	.08	.25	4
CYRENAICA	.05	.08	.15	2
CZECHOSLOVAKIA	.05	.08	.15	3
DAHOMEY	.05	.08	.25	2
DENMARK	.05	.08	.15	2
DODECANESE IS.	.05	.08	.15	2
DOMINICA	.05	.08	.10	3
DOMINICAN REPUBLIC	.05	.08	.10	2
ECUADOR	.05	.08	.10	3
EGYPT	.05	.08	.15	3
ENGLAND	.05	.08	.15	3
ERITREA	.05	.08	.25	6
ESTONIA	.05	.08	.15	3
ETHIOPIA	.05	.08	.25	4
FALKLAND ISLANDS	.05	.08	.10	3
FAEROES ISLANDS	.05	.08	.15	2
FIJI ISLANDS	.05	.08	.25	6
FINLAND	.05	.08	.15	2
FRANCE	.05	.08	.15	2
FRENCH CAMEROONS	.05	.08	.25	3
FRENCH EQ. AFRICA	.05	.08	.25	3
FRENCH GUIANA	.05	.08	.10	2
FRENCH GUINEA	.05	.08	.25	2
FRENCH OCEANIA	.05	.08	.25	2
FRENCH SOMALILAND	.05	.08	.25	3
FRENCH SUDAN	.05	.08	.25	2
FRENCH TOGOLAND	.05	.08	.25	2
GAMBIA	.05	.08	.25	9
GERMANY	.05	.08	.15	2
GHANA	.05	.08	.25	6
GIBRALTAR	.05	.08	.15	3
GILBERT & ELLICE IS.	.05	.08	.25	5
GREECE	.05	.08	.15	2
GREENLAND	.05	.08	.15	
GRENADA, BWI	.05	.08	.10	5
GRENADINES, BWI	.05	.08	.10	5
GUADELOUPE	.05	.08	.10	2
GUAM	.03	.04	.07*	
GUATEMALA	.05	.08	.10	2
HAITI	.05	.08	.10	5
HAWAII	.03	.04	.07*	
HONDURAS	.05	.08	.10	2
HONG KONG	.05	.08	.25	5
HUNGARY	.05	.08	.15	3
ICELAND	.05	.08	.15	2
INDIA	.05	.08	.25	6
INDONESIA	.05	.08	.25	6
IRAN	.05	.08	.25	3
IRAQ	.05	.08	.25	3
IRELAND	.05	.08	.15	3
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ITALY	.05	.08	.15	2
IVORY COAST	.05	.08	.25	2
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KENYA & UGANDA	.05	.08	.25	7
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LEBANON	.05	.08	.25	3
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LIBYA	.05	.08	.15	2
LIECHENSTEIN	.05	.08	.15	2
LITHUANIA	.05	.08	.15	3
LUXEMBOURG	.05	.08	.15	2
MACAO	.05	.08	.25	3
MADAGASCAR	.05	.08	.25	3
MADEIRA ISLANDS	.05	.08	.15	3
MALAYA	.05	.08	.25	6
MALTA	.05	.08	.15	6
MARTINIQUE	.05	.08	.10	2
MAURITANIA	.05	.08	.25	2
MAURITIUS	.05	.08	.25	4
MEXICO	.03	.04	.07*	2
MIDWAY ISLAND	.03	.04	.07*	
MONACO	.05	.08	.15	2
MONTSERRAT, BWI	.05	.08	.10	3
MOROCCO, (Br. & Fr.)	.05	.08	.15	2
MOROCCO, (Spain)	.05	.08	.15	6
MOZAMBIQUE	.05	.08	.25	4
NAURU ISLAND	.05	.08	.25	
NETHERLANDS	.05	.08	.15	2
NETHERLANDS NEW GUINEA	.05	.08	.25	
NETHERLANDS W. INDIES	.05	.08	.10	2
NEVIS	.05	.08	.10	3
NEW CALEDONIA	.05	.08	.25	3
NEWFOUNDLAND	.03	.04	.07*	2
NEW GUINEA	.05	.08	.25	3
NEW HEBRIDES	.05	.08	.25	3
NEW ZEALAND	.05	.08	.25	6
NICARAGUA	.05	.08	.10	4
NIGER	.05	.08	.25	2
NIGERIA	.05	.08	.25	4
NORTH BORNEO	.05	.08	.25	6
NORTHERN IRELAND	.05	.08	.15	3
NORTHERN RHODESIA	.05	.08	.25	7
NORWAY	.05	.08	.15	2
NYASALAND	.05	.08	.25	7
OKINAWA	.05	.08	.25	5
PAKISTAN	.05	.08	.25	5
PALESTINE	.05	.08	.25	
PANAMA	.05	.08	.10	2
PAPUA	.05	.08	.25	4
PARAGUAY	.05	.08	.10	3
PERU	.05	.08	.10	8
PHILIPPINE IS.	.05	.08	.25	3
PITCAIRN ISLAND	.05	.08	.25	
POLAND	.05	.08	.15	2
PORTUGAL	.05	.08	.15	2
PORT. EAST AFRICA	.05	.08	.25	3
PORTUGUESE GUINEA	.05	.08	.25	2
PORTUGUESE INDIA	.05	.08	.25	4
PORTUGUESE TIMOR	.05	.08	.25	4
PORTUGUESE W. AFRICA	.05	.08	.25	3
PUERTO RICO	.03	.04	.07*	
REDONDA, BWI	.05	.08	.10	2
REUNION ISLAND	.05	.08	.25	3
RIO DE ORO	.05	.08	.25	6
ROMANIA	.05	.08	.15	4
RYUKYU ISLANDS	.05	.08	.25	5
ST CHRISTOPHER, BWI	.05	.08	.10	3
ST HELENA	.05	.08	.25	3
ST KITS, BWI	.05	.08	.10	3
ST LUCIA, BWI	.05	.08	.10	3
ST PIERRE & MIQUELON	.05	.08	.08*	2
ST VINCENT, BWI	.05	.08	.10	3
SALVADOR	.05	.08	.10	2
SAMOA (Br.)	.05	.08	.25	6
SAN MARINO	.05	.08	.15	2
SANTA CRUZ ISLANDS	.05	.08	.25	
SARAWAK	.05	.08	.25	6
SAUDI ARABIA	.05	.08	.25	3
SCOTLAND	.05	.08	.15	2
SENEGAL	.05	.08	.25	2
SEYCHELLES	.05	.08	.25	3
SIERRA LEONE	.05	.08	.25	6
SOLOMON ISLANDS	.05	.08	.25	8
SOMALIA	.05	.08	.25	5
SOUTHERN RHODESIA	.05	.08	.25	7
SOUTHWEST AFRICA	.05	.08	.25	6
SPAIN	.05	.08	.15	3
SPANISH GUINEA	.05	.08	.25	9
SUDAN	.05	.08	.25	4
SURINAM	.05	.08	.10	1
SWEDEN	.05	.08	.15	2
SWITZERLAND	.05	.08	.15	2
SYRIA	.05	.08	.25	3
TANGANYIKA	.05	.08	.25	7
THAILAND	.05	.08	.25	3
TOGO	.05	.08	.25	2
TONGA ISLANDS	.05	.08	.25	4
TRINIDAD	.05	.08	.10	3
TRIPOLITANIA	.05	.08	.15	2
TRISTAN DA CUNHA	.05	.08	.25	6
TUNISIA	.05	.08	.15	2
TURKEY	.05	.08	.15	3
TURKS ISLAND	.05	.08	.10	2
UGANDA	.05	.08	.25	7
UNION OF SOUTH AFRICA	.05	.08	.25	6
URUGUAY	.05	.08	.10	4
U.S.R.R.	.05	.08	.15	3
U. S. VIRGIN IS.	.03	.04	.07*	
VATICAN CITY	.05	.08	.15	2
VENEZUELA	.05	.08	.10	2
VIET-NAM	.05	.08	.25	3
WAKE ISLAND	.03	.04	.07*	
WESTERN SAMOA	.05	.08	.25	6
YEMEN	.05	.08	.25	
YUGOSLAVIA	.05	.08	.15	2
ZANZIBAR	.05	.08	.25	8

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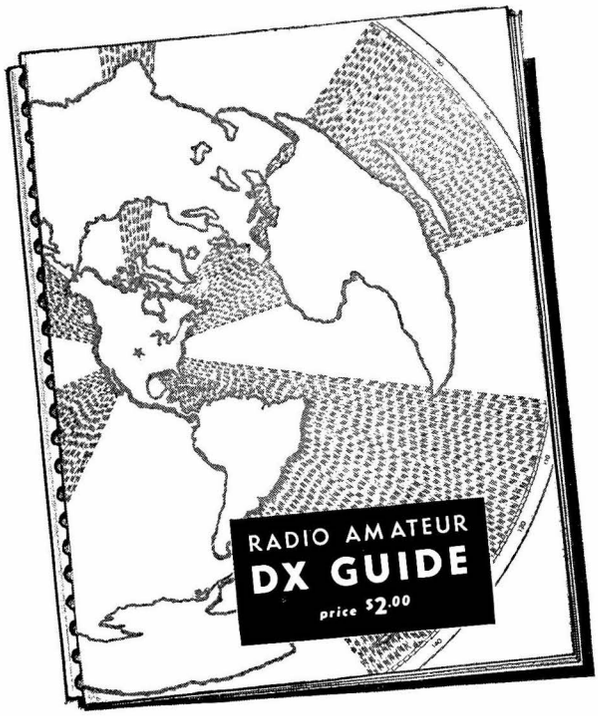

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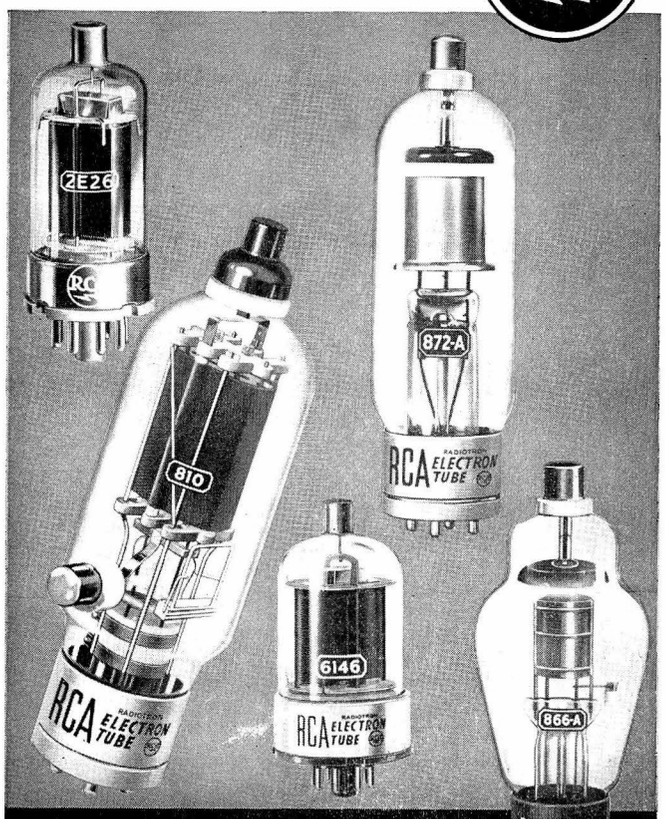

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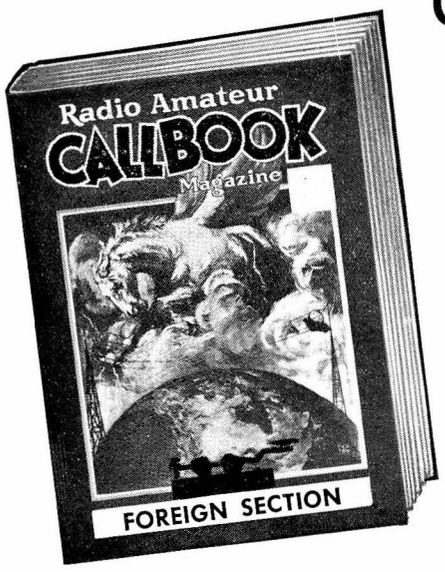
INTERNATIONAL "Q" SIGNALS

Abbreviation	Question	Answer or Advice
QRA	What is the name of your station?	The name of my stations is . . .
QRB	How far approximately are you from my station?	The approximate distance between our stations is . . . nautical miles (or kilometres)
QRD	Where are you bound and where are you from?	I am bound for . . . from . . .
QRG	Will you tell me my exact frequency or that of . . .)?	Your exact frequency (or that of . . . is . . . kc/s (or Mc/s).
QRH	Does my frequency vary?	Your frequency varies.
QRI	How is the tone of my transmission?	The tone of your transmission is . . . (1. Good; 2. Variable; 3. Bad).
QRK	What is the readability of my signals (or those of . . .)?	The readability of your signals (or those of . . .) is . . . (1. Unreadable; 2. Readable now and then; 3. Readable, but with difficulty; 4. Readable; 5. Perfectly readable).
QRL	Are you busy?	I am busy (or I am busy with . . .). Please do not interfere.
QRM	Are you being interferred with?	I am being interferred with.
QRN	Are you troubled by static?	I am troubled by static.
QRO	Shall I increase power?	Increase power.
QRP	Shall I decrease power?	Decrease power.
QRQ	Shall I send faster?	Send faster (. . . words per minute).
QRR	Are you ready for automatic operation?	I am ready for automatic operation. Send at . . . words per minute.
QRS	Shall I send more slowly?	Send more slowly (. . . words per minute).
QRT	Shall I stop sending?	Stop sending.
QRU	Have you anything for me?	I have nothing for you.
QRV	Are you ready?	I am ready.
QRW	Shall I inform . . . that you are calling him on . . . kc/s (or Mc/s).	Please inform . . . that I am calling him on . . . kc/s (or Mc/s).
QRX	When will you call me again?	I will call you again at . . . hours [on . . . kc/s (or Mc/s)].
QRY	What is my turn?	Your turn is Number . . . (Relates to communication.)
QRZ	Who is calling me?	You are being called by . . . [on . . . kc/s or Mc/s)].
QSA	What is the strength of my signals (or those of . . .)?	The strength of your signals (or those of . . .) is . . . (1. Scarcely perceptible; 2. Weak; 3. Fairly good; 4. Good; 5. Very good).
QSB	Are my signals fading?	Your signals are fading.
QSD	Is my keying defective?	Your keying is defective.
QSG	Shall I send . . . telegrams at a time?	Send . . . telegrams at a time.
QSJ	What is the charge to be collected per word to . . . including your internal telegraph charge?	The charge to be collected per word to . . . including my internal telegraph charge is . . . francs.
QSK	Can you hear me between your signals?	I can hear you between my signals.
QSL	Can you acknowledge receipt?	I am acknowledging receipt.
QSM	Shall I repeat the last telegram which I sent you, or some previous telegram?	Repeat the last telegram which you sent me [or *telegram(s) number(s)* . . .].
QSN	Did you hear me [or . . . (call sign)] on . . . kc/s (or Mc/s)?	I did hear you [or . . . (call sign) on . . . kc/s (or Mc/s).
QSO	Can you communicate with . . . direct or by relay?	I can communicate with . . . direct (or by relay through . . .).
QSP	Will you relay to . . . free of charge?	I will relay to . . . free of charge.
QSQ	Have you a doctor on board [or is . . . (name of person) on board]?	I have a doctor on board [or . . . name of person) is on board].
QSU	Shall I send or reply on this frequency [or on . . . kc/s (or Mc/s)] (with emissions of class . . .)?	Send or reply on this frequency [or on . . . kc/s (or Mc/s] (with emissions of closs . . .).
QSV	Shall I send a series of V's on this frequency [or . . . kc/s (or Mc/s)]?	Send a series of V's on this frequency [or . . . kc/s (or Mc/s)].
QSW	Will you send on this frequency [or on . . . kc/s (or Mc/s)] (with emissions of class)?	I am going to send on this frequency [or on . . . kc/s (or Mc/s)] (with emissions of class . . .).
QSX	Will you listen to . . . [*call sign(s)*] on . . . kc/s (or Mc/s)	I am listening to . . . [*call sign(s)*] on . . . kc/s (or Mc/s).
QSY	Shall I change to transmission on another frequency?	Change to transmission on another frequency [or on . . . kc/s (or Mc/s)].
QSZ	Shall I send each word or group more than once?	Send each word or group twice (or . . . times).
QTA	Shall I cancel telegram number . . . as if it had not been sent?	Cancel telegram number . . . as if it had not been sent.
QTB	Do you agree with my counting of words?	I do not agree with your counting of words; I will repeat the first letter or digit of each word or group.
QTC	How many telegrams have you to send?	I have . . . telegrams for you (or for . . .).
QTE	What is my TRUE bearing from you?	Your TRUE bearing from me is . . . degrees (at . . . hours)
	or	or
	What is my TRUE bearing from . . . (*call sign*)?	Your TRUE bearing from . . . (*call sign*) was . . . degrees (at . . . . . hours)
	or	or
	What is the TRUE bearing of . . . (*call sign*) from . . . (*call sign*)?	The TRUE bearing of . . . (*call sign*) from . . . (*call sign*) was . . . degrees at . . . hours).
QTG	Will you send two dashes of ten seconds each followed by your call sign (repeated . . . times) [on . . . kc/s (or Mc/s)]?	I am going to send two dashes of ten seconds each followed by my call sign (repeated . . . times) [on . . . kc/s (or Mc/)]
	or	or
	Will you request . . . to send two dashes of ten seconds followed by his call sign (repeated . . . times) on . . . kc/s (or Mc/s)?	I have requested . . . to send two dashes of ten seconds followed by his call sign (repeated . . . times) on . . . kc/s (or Mc/s).
QTH	What is your position in latitude and longitude (*or according to any other indication*)?	My position is . . . latitude . . . longitude (*or according to any other indication*).
QTI	What is your TRUE track?	My TRUE track is . . . degrees.
QTJ	What is your speed?	My speed is . . . knots (or kilometres per hour).
QTL	What is your TRUE heading?	My TRUE heading is . . . degrees.
QTN	At what time did you depart from . . . (*place*)?	I departed from . . . (*place*) at . . . hours.
QTO	Have you left dock (or port)?	I have left dock (or port)
	or	or
	Are you airborne?	I am airborne.
QTP	Are you going to enter dock (or port)?	I am going to enter dock (or port)
	or	or
	Are you going to alight (or land)?	I am going to alight (or land).
QTQ	Can you communicate with my station by means of the International Code of Signals?	I am going to communicate with your station by means of the International Code of Signals.
QTR	What is the correct time?	The correct time is . . . hours.
QTS	Will you send your call sign for . . . minute(s) now (or at . . . hours) [on . . . kc/s (or Mc/s] so that your frequency may be measured?	I will send my call sign for . . . minute(s) now (or at . . . hours) [on . . . kc/s (or Mc/s)] so that my frequency may be measured.
QTU	What are the hours during which your station is open?	My station is open from . . . to . . . hours.
QTV	Shall I stand guard for you on the frequency of . . . kc/s (*or Mc/s*) (from . . . to . . . hours)?	Stand guard for me on the frequency of . . . kc/s (or Mc/s) (from . . . to . . . hours).
QTX	Will you keep your station open for further communication with me until further notice (or until . . . hours)?	I will keep my station open for further communication with you until further notice (or until . . . hours).
QUA	Have you news of . . . (*call sign*)?	Here is news of . . . (*call sign*).
QUB	Can you give me, in the following order, information concerning: visibility, height of clouds, direction and velocity of ground wind at . . . (*place of observation*)?	Here is the information requested . . .
QUC	What is the number (*or other indication*) of the last message you received from me [or from (*call sign*]?	The number (*or other indication*) of the last message I received from you [or from . . . (*call sign*)] is . . .
QUD	Have you received the urgency signal sent by . . . (*call sign of mobile station*)?	I have received the urgency signal sent by . . . (*call sign of mobile station*) at . . . hours).
QUF	Have you received the distress signal sent by . . . (*call sign of mobile station*)?	I have received the distress signal sent by . . . (*call sign of mobile station*) at . . . hours.
QUG	Will you be forced to alight (or land)?	I am forced to alight (or land immediately.
		or
		I shall be forced to alight (or land) at . . . (*position or place*).
QUH	Will you give me the present barometric pressure at sea level?	The present barometric pressure at sea level is . . . (*units*).

DX EDITION OF THE CALLBOOK



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0000	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM
0100	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night
0200	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM
0300	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM
0400	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM
0500	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM
0600	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM–
0700	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM
0800	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM
0900	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM
1000	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM
1100	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM
1200	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM
1300	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon
1400	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM
1500	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM
1600	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM
1700	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM
1800	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM
1900	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM
2000	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM
2100	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM
2200	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM
2300	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM

With this chart you can convert standard time in any time zone to GMT or tell what time it is in other parts of the world. To correctly use this chart visualize each horizontal line as a complete circle. From your time zone tracing horizontally to the right (Counter Clockwise) it will be tomorrow when you pass midnight and yesterday when you pass the international date line. To the left (Clockwise) it will be yesterday when you pass midnight and tomorrow when you pass the international date line. There is no change in date when you pass both midnight and the international date line going in one direction. For instance at 8 PM in New York Eastern Standard Time it is 2 AM tomorrow in Berlin, Germany and 11 AM tomorrow in Sydney, Australia. Always trace in the shortest direction from your time zone to find what time it is in any other zone. Copyright 1938 Radio Amateur Call Book, Inc., Chicago, USA.

"Q" SIGNALS

Given below are a number of Q signals whose meanings most often need to be expressed with brevity and clearness in amateur work. (Q abbreviations take the form of questions only when each is sent followed by a question mark.)

QAV Are you calling me? I am calling.....

QRG Will you tell me my exact frequency in kilocycles? Your frequency is.....kc.

QRH Does my frequency vary? Your frequency varies.

QRI How is the tone of my transmission? The tone of your transmission is..... (1. good; 2, variable; 3. bad).

QRJ Are you receiving me badly? Are my signals weak? I cannot receive you. Your signals are too weak.

QRK What is the readability of my signals (1 to 5)? The readability of your signals is.....(1 to 5).

QRL Are you busy? I am busy or busy with (.....).

QRM Are you being interfered with? I am interfered with.

QRN Are you troubled by atmospherics? I am being troubled by atmospherics.

QRQ Shall I send faster? Send faster (..... words per min.).

QRS Shall I send more slowly? Send more slowly (.....w.p.m.).

QRT Shall I stop sending? Stop sending.

QRU Have you anything for me? I have nothing for you.

QRV Are you ready? I am ready.

QRW Shall I tell.....that you are calling him? Please tell.....that I am calling him.

QRX When will you call again? I will call you again at.....hours (on.....kc).

QRZ By whom am I being called? You are being called by.....

QSA What is the strength of my signals (1 to 5)? The strength of your signals is .....(1 to 5).

QSB Does the strength of my signals vary? The strength of your signals varies.

QSD Is my keying correct? Are my signals distinct? Your keying is incorrect; your signals are bad.

QSG Shall I send.....telegrams (or one) at a time? Send.....telegrams at a time.

QSL Can you give me acknowledgment of receipt? I give you acknowledgment of receipt.

QSM Shall I repeat the last telegram I sent you? Repeat the last telegram you sent me.

QSO Can you communicate with.....direct (or through.....)? I can communicate with.....direct (or through.....).

QSP Will you relay to.....? I will relay to.....

QSV Shall I send a series of VVV.....? Send a series of VVV.

QSW Will you send on.....kcs? etc. I will send on.....kcs, etc.

QSX Will you listen for.....(call sign) on..... kcs? I am listening for.....on.....kcs.

QSY Shall I change to.....kilocycles without changing the type of wave? Change to .....kc. without changing type of wave.

QSZ Shall I send each word or group twice? Send each word or group twice.

QTA Shall I cancel nr.....as if it had not been sent? Cancel nr.....as if it had not been sent.

QTB Do you agree with my number of words? I do not agree with your number of words; I will repeat the first letter of each word and the first figure of each number.

QTC How many telegrams have you to send? I have.....telegrams for you or for.....

QTH What is your position (location)? My location is.....(by any indication).

QTR What is the exact time? The time is.....

CQ is the general call to any station.

Special abbreviations adopted by ARRL:

QST General call preceding a message addressed to all amateurs and ARRL Members. This is in effect "CQ ARRL."

QRRR Official ARRL "land SOS." A distress call for emergency use only by station in an emergency situation.

A.R.R.L.-NET "QN" SIGNALS

QNA Answer in pre-arranged order.

QNB Act as relay between.....and.....

QNC All Net stations copy.

QND Net is directed.

QNE Entire Net please stand by.

QNF Net is free.

QNG Take over as Net Control Station.

QNH Your Net frequency is high.

QNI Report into Net **or** I report into Net.

QNJ Can you copy me (**or**.....)?

QNK Transmit message(s) (for.....) to.....

QNL Your Net frequency is low.

QNM You are QRMing.....; please stand by.

QNN Net Control Station is.....(on.....kc.).

QNO Going out of Net.

QNP Unable to copy you (**or**.....)?

QNQ Send you information "QNC" **or** May I transmit message "QNC?"

QNR Answer.....and relay (**or** receive) traffic.

QNS Following stations in Net.....

QNT Leaving Net temporarily (**or** for..... minutes) **or** I request to leave Net temporarily, etc.

QNU .....has traffic for you; await instructions (**or** QNU QNR).

QNV Please request.....to QSV.

QNW Through whom shall I relay message for.....?

QNX You are excused from Net **or** I request to be excused.

QNY Please shift to another frequency (**or** to .....kc.) to prevent QRMing other Net stations (**or** to clear trafifc with.....).

QNZ Zero beat your signal with that of the Net Control Station.

PR CRYSTALS

SINCE 1934

AMATEUR

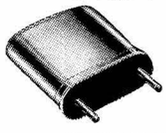
40 and 80 Meters, PR Type Z-2

Rugged. Low drift, fundamental oscillators. High activity and power output. Stands up under maximum crystal currents. Stable, long-lasting; ±500 cycles.....$2.95 Net

Third Overtone, PR Type Z-9A

Hermetically sealed; calibrated 24,000 to 24,666 and 25,000 to 27,000 Kc., ±3 Kc.; .050" pins. $4.95 Net

6 Meters, PR Type Z-9A



Fifth overtone; for operating directly in 6-meter band; hermetically sealed; calibrated 50 to 54 Mc., ±15 Kc.; .050" pins.....$6.95 Net

SPECIAL TYPES

Commercial Crystals available from 100 Kc. to 70 Mc. Prices on request.

Type Z-1, Aircraft
3023.5 Kc., .005% $3.45 Net

Z-1, MARS & CAP
Official assigned transmitter frequencies in the range. Calibrated to .005%. 1600 to 10000 Kc.....$3.45 Net

Type Z-6A, Frequency Standard
To determine band-edge. To keep the VFO and receiver properly calibrated.
100 Kc.....$6.95 Net

Type 2XP

Suitable for converters, experimental, etc. Same holder dimensions as Type Z-2.

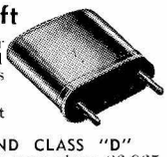
1600 to 12000 Kc. (Fund.)
±5 Kc.....$3.45 Net

12001 to 25000 Kc. (3d Mode)
±10 Kc.....$4.45 Net

Type Z-1, TV Marker Crystals

Channels 2 through 13.....$6.45 Net
4.5 Mc. Intercarrier, .01%.....$2.95 Net
5.0 Mc. Sig. Generator, .01%.....$2.95 Net
10.7 Mc. FM, IF, .01%.....$2.95 Net

VHF Type Z-9R, Aircraft



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Each.....$4.95 Net

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FCC assigned frequencies in megacycles: 26.995, 27.045, 27.095, 27.145, 27.195, 27.255; calibrated to .005%.....$2.95 Net
(Be sure to specify manufacturer of equipment)

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STANDARD TIME THROUGHOUT THE WORLD

Compiled by the National Bureau of Standards

Standard time for the world, like longitude, is counted from Greenwich, England, as the prime meridian. Places to the east of Greenwich have faster time than Greenwich, while places to the west have slower time. The world is divided into time zones of approximately 15° for every hour. Since Greenwich is in the 0 zone, the number of any zone, if added or substracted to the time in Greenwich, will give the corresponding time in that particular zone.

Not all countries follow the International Time Zone System, but some use the time of some principal city as a standard and others have no standard time. The different time zones of the world are numbered east and west of Greenwich. The zone number when added or substracted, as shown in the following table, from the time of the zone gives the corresponding Greenwich time. Thus zones to the east have faster time than Greenwich and are indicated as minus (—), while those to the west have slower time and are indicated as plus (+).

Country	Zone Number
Admiralty Islands	—10
Afghanistan	—4
Alaska	
Juneau, Ketchikan, Sitka	+8
Cordova	+9
Central part	+10
West coast, Aleutian Islands	+11
Albania†	—1
Algeria	—0
Amirante Islands	—4
Amsterdam Island	—5
Andaman Islands	—6½
Andora†	0
Anglo-Egyptian Sudan	—2
Angola	—1
Anguilla Island	+4
Antigua Island	+4
Arabia‡	
Aden†	—3
Argentina†	+4
Aru Islands	—9
Ascension Island	0
Austral (Tubuai) Islands	+10
Australia	
Western Australia	—8
Northern Territory, South Australia†	—9½
New South Wales,† Queensland, Victoria*	—10
Austria†	—1
Azores Islands†	0
Bahama Islands	+5
Bahrein Islands	—4
Balearic Islands†	0
Barbados Island†	+4
Bechuanaland	—2
Belgium†	0
Bermuda Islands†	+4
Bhutan	—5½
Bolivia	+4
Borneo†	—8
Brazil	
Fernando Noronha Island, Isle de Trinidade	+2
Bahia, Ceara, Esperito Santo, Goyaz, Miranhao, Minas-Geraes, Para, Parana, Pernambuco, Piauhy, Rio de Janeiro, Rio Grande do Norte, Rio Grande do Sul, Santa Catherina, Sao Paulo	+3
Amazonas, Matto Grosso	+4
Acre Territory	+5
British Honduras†	+6
Bulgaria	—3
Burma	—6½
Cameroons	—1
Canada	
Belle Isle, Labrador,† Newfoundland†	+3½
Anticosti Island, Cape Breton Island, Magdalen Island, New Brunswick,† Nova Scotia,† Prince Edward Island, Quebec (east of 68° W),† Sable Island	+4
Melville Peninsula (east), Ontario (east of 90° W.),† Quebec (west of 68 W.),† Southampton Island	+5
Manitoba, Ontario (west of 90° W.), Melville Peninsula (west), Northwest Territories (east)	+6
Alberta, Saskatchewan, Northwest Territories (middle)	+7
British Columbia, Northwest Territories (west)	+8
Yukon	+9
Arctic Islands‡	
Canary Islands†	+1
Cape Verde Islands	+2
Caroline Islands	—10
Ceylon Island†	—5½
Chagos Archipelago†	—5
Chile	+4
China	
Western part	—5
Mid-Western part	—6
Mid-Eastern part, Hainan, Palekoi, Hongkong, Macao	—7
Eastern part	—8
Christmas Island	—7
Colombia	+5
Congo	
Western part	—1
Eastern part	—2
Cook Islands	
Costa Rica	+6
Cuba†	+5
Curacao Island	+4½
Cyprus Island	—2
Czechoslovakia	—1
Dahomey	0
Denmark†	—1
Dodecanese Islands	—2
Dominican Republic†	+5
Ecuador	+5
Egypt†	—2
Eire†	0
Ellice Islands	—12
El Salvador	+6
England†	0
Equatorial Africa, French	—1
Eritrea	—3
Ethiopia	—3
Falkland Islands†	+4
Fanning Island	+11
Faroe Islands	0
Finland†	—2
France†	0
Gambia	0
Germany†	—1
Gibraltar†	0
Gilbert Islands	—12
Gold Coast†	0
Greece†	—2
Scoresby Sound	+2
Angmagssalik, Disko Island, Western Coast	+3
Interior‡	
Grenada Island	+4
Guadeloupe Island	+4
Guam Island	—10
Guatemala	+6
Guiana, British, Dutch, French	+3½
Guinea	
French, Spanish	0
Portuguese	+1
Haiti	+5
Hawaiian Islands	+10
Hebrides Islands	0
Honduras	+6
Hungary†	—1
Iceland†	+1
India†	—5½
Indo-China†	—8
Iran	—3½
Iraq†	—3
Ireland, Northern†	0
Isle of Man	0
Isle of Pines	+5
Italy†	—1
Jamaica	+5
Japan†	—9
Java	—8
Kenya	—3
Kodiak Island	+10
Korea	—8½
Labrador	+3½
Laccadive Islands	—5½
Latvia*	—2
Liberia	
Libya*	—1
Liechtenstein	—1
Lithuania*	—2
Lord Howe Island	—10½
Luxembourg*	0
Madagascar Island	—3
Madeira Islands	0
Malay States	—7½
Maldive Islands	
Malta Island	—1
Marshall Islands	—12
Martinique Island	+4
Mauritius Island	+4
Mexico*	
Aguascalientes, Campeche, Chiapas, Chihuahua, Coahuila, Durango, Guanajuato, Guerrero, Jalisco, Mexico, Michoacan, Morelos, Nuevo Leon, Oaxaca, Puebla, Queretaro, Quintana Roo, San Luis Potosi, Tabasco, Tamaulipas, Tlaxcala, Yucatan	+6
Baja California (south of 28° N.), Nayarit, Sinaloa, Sonora	+7
Baja California (north of 28° N.)	+8
Midway Island	+11
Monaco§	0
Morocco§	0
Mozambique	—2
Nepal	—5½
Netherlands	0
New Caledonia Islands	—11
Newfoundland§	+3½
New Guinea	
Western part (Dutch)	—9
Eastern part (British)	—10
New Hebrides Islands	—11
New Zealand§	—12
Nicaragua	+6
Nigeria	—1
Norfolk Island	—11½
Northern Ireland§	0
Norway§	—1
Nyasaland	—2
Orkney Islands	0
Pakistan	—5½
Palestine†	—2
Panama	+5
Paraguay	+4
Peru†	+5
Philippine Islands	—8
Poland	
Western part	—1
Eastern part	—2
Portugal†	0
Puerto Rico	+4
Reunion Island	—4
Rhodesia	
Northern	—2
Southern	—2
Rio de Oro	+1
Rumania	—2
Samoa Islands	+11
San Marino†	—1
Sarawak	—8
Saudi Arabia‡	
Scotland	0
Senegal†	0
Seychelles Islands	—4
Siam	—7
Sierra Leone	0
Society Islands	+10
Solomon Islands	—11
Somaliland	—3
Southwest Africa	—2
Spain†	0
Spitzbergen‡	
St. Croix Island	+4
St. Helena Island	0
St. Lawrence Island	+11
St. Lucia Island	+4
St. Matthew Island	+11
St. Miguel Island	0
St. Pierre Island†	+4
St. Thomas Island	+4
St. Vincent Island	+4
Sudan (French West Africa)	
Eastern part	0
Western part	+1
Sumatra Island	—7
Sweden	—1
Switzerland†	—1
Syria†	—2
Tanganyika	—3
Tangier	0
Tasmania Island†	—10
Timor Island	—9
Tobago Island	+4
Togoland	0
Tonga (Friendly) Islands	
Transjordan*	
Trinidad Island	+4
Tunisia	—1
Turkey†	—2
Turks Island	+5
Uganda	—3
Union of South Africa†	—2
United States of America†	
Eastern	+5
Central	+6
Mountain	+7
Pacific	+8
Alaska	+10
Uruguay†	+3
U. S. S. R.†	
Estonia, Karelo-Finnish, Latvia, Lithuania, Moldavia, Russia, Ukraine, White Russia	—2
Armenia, Azerbaijan, Georgia	—3
Kazak, Tadzhik, Turkmen, Uzbek	—4
Kirghiz, W. Siberian Region	—5
Approximately 82½° to 97½°	—6
Buryat-Mongol, E. Siberian Region	—7
Approximately 112½° to 127½°	—8
Kuril Islands, Sakhalin	—9
Approximately 142½° to 157½°	—10
Approximately 157½° to 172½°	—11
Approximately 172½° to coast	—12
Vatican City	—1
Venezuela	+4½
Virgin Islands	+4
Wake Island	—12
Wales	0
Wrangell Island	—12
Yap Island	—10
Yugoslavia	—1
Zanzibar Island	—3

*See time Zone Chart of the World No. 5192, published by Hydrographic Office, Navy.

†Fast time in use during part of the year.

‡No definite standard time used.

§1 hour or 2 hours fast, fixed annually.

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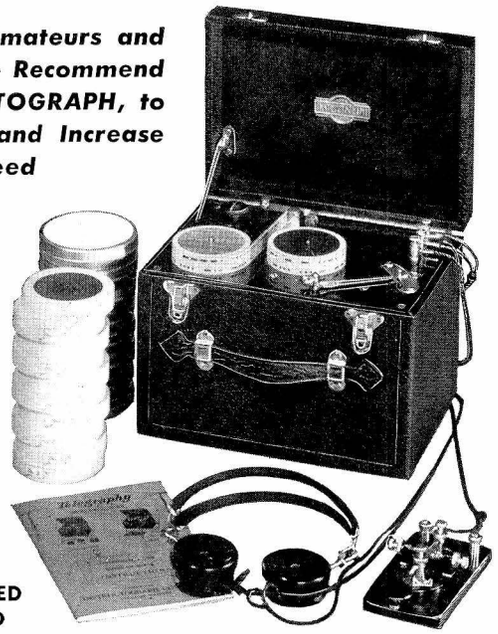

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(Title 39, United States Code, Section 233)

Of RADIO AMATEUR CALL BOOK MAGAZINE, published quarterly at Chicago, Illinois, for October 1, 1960.

1. The names and addresses of the publisher, editor, managing editor and business managers are: Publisher, Herbert J. Nelson, 4844 W. Fullerton Ave., Chicago 39, Ill.; Editor, Virginia Tworek, 4844 W. Fullerton Ave., Chicago 39, Ill.; Managing editor and Business manager, Herbert J. Nelson, 4844 W. Fullerton Ave., Chicago 39, Ill.

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3. There are no known bondholders, mortgagees or other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities.

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5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: 7,934.

(Signed) HERBERT J. NELSON,
Business Manager.

Sworn to and subscribed before me this 23rd day of September, 1960.
MARIAN E. HIRSCH

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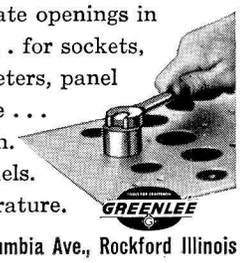

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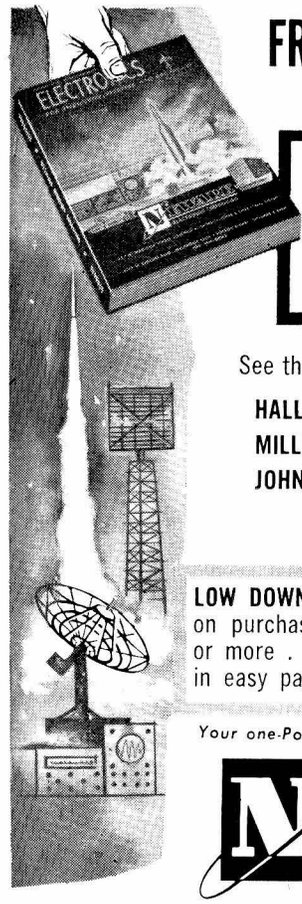

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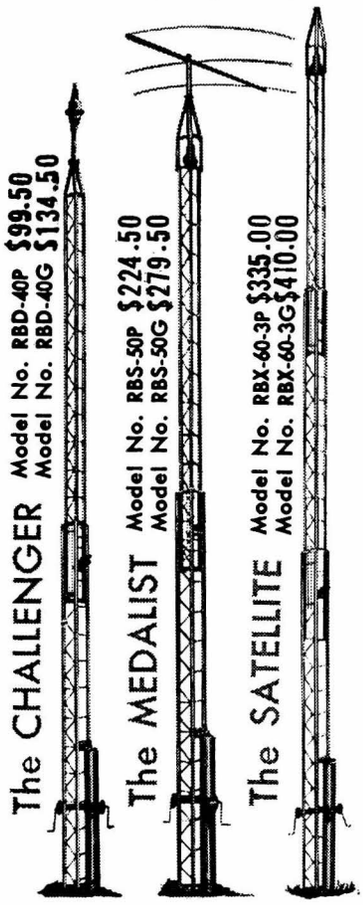
ATLANTA, GEORGIA		140	1244	937	697	353	1229	587	554	194	721	1212	739	596	1291	1697	701	426	285	676	456	1936	319	604	668	907	214	424	748	505	666	1592	521	467	1583	2139	2182	543	371
BIRMINGHAM, ALA.	140		1174	1052	776	442	1119	578	618	334	581	1095	670	641	1152	1602	567	433	374	579	325	1802	331	665	659	862	182	312	864	638	783	1456	608	400	1466	2013	2082	661	512
BISMARCK, N. D.	1244	1174		1489	1106	1133	440	734	1014	1359	990	531	506	926	1081	534	1211	881	1529	618	943	1267	965	1838	682	384	1030	1297	1396	1430	1367	1095	1127	779	694	1265	1013	1318	1474
BOSTON, MASS.	937	1052	1489		400	622	1735	851	551	791	1551	1769	1159	613	2072	2024	1605	807	1017	1251	1259	2596	826	1255	857	1123	943	1359	188	471	271	2300	483	1038	2099	2699	2493	393	673
BUFFALO, NEW YORK	697	776	1106	400		344	1335	454	173	623	1198	1370	760	216	1692	1640	1286	435	879	861	913	2198	483	1181	458	731	627	1086	292	947	279	1906	178	662	1699	2300	2117	292	598
CHARLESTON, W. VA.	353	442	1133	622	344		1246	400	217	302	935	1256	673	284	1475	1642	984	262	553	701	642	2054	225	870	461	755	322	754	440	311	365	1733	168	465	1616	2205	2132	253	350
CHEYENNE, WYOMING.	1229	1119	440	1735	1335	1246		891	1199	1390	726	96	583	1125	653	521	947	986	1493	560	813	882	1033	1763	878	642	1032	1131	1604	1556	1556	663	1298	795	371	967	973	1477	1540
CHICAGO, ILLINOIS	587	578	734	851	454	400	891		308	652	803	920	309	238	1252	1248	940	165	863	414	552	1745	269	1188	81	355	397	833	713	699	666	1453	410	262	1260	1858	1737	597	745
CLEVELAND, OHIO	554	618	1014	551	173	217	1199	308		518	1025	1227	617	90	1525	1541	1114	263	770	700	740	2049	311	1087	335	630	459	924	405	432	360	1749	115	492	1568	2166	2026	306	541
COLUMBIA, S. C.	194	334	1359	791	623	302	1390	652	518		914	1380	863	585	1484	1837	891	489	256	830	644	2123	395	569	726	998	358	599	605	332	523	1781	448	603	1751	2317	2326	405	178
DALLAS, TEXAS	721	581	990	1551	1198	935	726	803	1025	914		663	632	999	572	1247	225	763	908	451	293	1240	726	1111	857	862	617	443	1374	1196	1299	887	1070	547	999	1483	1681	1185	1091
DENVER, COLORADO	1212	1095	531	1769	1370	1256	96	920	1227	1380	663		610	1156	557	591	879	1000	1467	558	780	831	1038	1726	914	700	1023	1082	1631	1566	1579	586	1320	796	371	949	1021	1494	1537
DES MOINES, IOWA	739	670	506	1159	760	673	583	309	617	863	632	610		546	983	977	821	411	1023	180	478	1438	476	1333	309	235	525	827	1022	983	973	1155	715	273	953	1550	1467	896	993
DETROIT, MICHIGAN	596	641	926	613	216	284	1125	238	90	585	999	1156	546		1479	1455	1105	240	831	645	723	1983	316	1152	252	543	470	939	482	522	443	1690	205	455	1492	2091	1938	396	623
EL PASO, TEXAS	1291	1152	1081	2072	1692	1475	653	1252	1525	1484	572	557	983	1479		1065	676	1264	1473	839	847	701	1254	1643	1279	1157	1169	983	1905	1755	1836	346	1590	1034	689	995	1376	1728	1661
HELENA, MONTANA	1697	1602	534	2024	1640	1642	521	1248	1541	1837	1247	591	977	1455	1065		1467	1382	1973	1023	1315	924	1453	2260	1206	912	1488	1646	1929	1947	1897	907	1652	1236	403	807	490	1842	1969
HOUSTON, TEXAS	701	567	1211	1605	1286	984	947	940	1114	891	225	879	821	1105	676	1467		865	821	644	388	1374	803	968	1005	1056	665	318	1420	1204	1341	1017	1137	679	1200	1645	1891	1220	1066
INDIANAPOLIS, IND.	426	433	881	807	435	262	986	165	263	489	763	1000	411	240	1264	1382	865		699	453	483	1809	107	1024	243	511	251	712	646	573	585	1499	330	231	1356	1949	1872	494	593
JACKSONVILLE, FLA.	285	374	1529	1017	879	553	1493	863	770	256	908	1467	1023	831	1473	1973	821	699		950	690	2147	594	326	942	1191	499	504	838	546	758	1794	703	751	1837	2374	2455	647	346
KANSAS CITY, MISSOURI	676	579	618	1251	861	701	560	414	700	830	451	558	180	645	839	1023	644	453	950		325	1356	480	1241	443	413	473	680	1097	1009	1038	1049	781	238	925	1506	1506	945	981
LITTLE ROCK, ARK.	456	325	943	1259	913	642	813	552	740	644	293	780	478	723	847	1315	388	483	690	325		1480	435	949	618	708	325	355	1081	909	1007	1137	779	291	1148	1688	1785	892	818
LOS ANGELES, CALIF.	1936	1802	1267	2596	2198	2054	882	1745	2049	2123	1240	831	1438	1983	701	924	1374	1809	2147	1356	1480		1829	2339	1744	1524	1780	1673	2451	2355	2394	357	2136	1589	579	347	959	2300	2294
LOUISVILLE, KY.	319	331	965	826	483	225	1033	269	311	395	726	1038	476	316	1254	1453	803	107	594	480	435	1829		919	349	605	154	623	652	529	582	1508	344	242	1402	1986	1943	476	516
MIAMI, FLORIDA	604	665	1838	1255	1181	870	1763	1188	1087	569	1111	1726	1333	1152	1643	2260	968	1024	326	1241	949	2339	919		1267	1511	815	669	1092	797	1019	1982	1010	1061	2089	2594	2734	923	598
MILWAUKEE, WIS.	668	659	682	857	458	461	878	81	335	726	357	914	309	252	1279	1206	1005	243	942	443	618	1744	349	1267		299	478	910	733	749	694	1464	446	327	1242	1842	1692	637	810
MINNEAPOLIS, MINN.	907	862	384	1123	731	755	642	355	630	998	862	700	235	543	1157	912	1056	511	1191	413	708	1524	605	1511	299		697	1051	1018	1047	985	1280	743	466	987	1584	1395	934	1100
NASHVILLE, TENN.	214	182	1030	943	627	322	1032	397	459	358	617	1023	525	470	1169	1488	665	251	499	473	325	1780	154	815	478	697		469	761	586	685	1446	472	254	1393	1963	1975	569	517
NEW ORLEANS, LA.	424	312	1297	1359	1086	754	1131	833	924	599	443	1082	827	939	983	1646	318	712	504	680	355	1673	623	669	910	1051	469		1171	926	1089	1316	919	598	1434	1926	2101	966	769
NEW YORK, N. Y.	748	864	1396	188	292	440	1604	713	405	605	1374	1631	1022	482	1905	1929	1420	646	838	1097	1081	2451	652	1092	733	1018	761	1171		296	83	2145	317	875	1972	2571	2408	205	499
NORFOLK, VA.	505	638	1430	471	438	311	1556	699	432	332	1196	1566	983	522	1755	1947	1204	573	546	1009	909	2355	529	797	749	1047	586	926	296		222	2028	318	771	1927	2515	2436	146	203
PHILADELPHIA, PA.	666	783	1367	271	279	365	1556	666	360	523	1299	1579	973	443	1836	1897	1341	585	758	1038	1007	2394	582	1019	694	985	685	1089	83	222		2083	259	811	1925	2523	2380	123	423
PHOENIX, ARIZONA	1592	1456	1095	2300	1906	1733	663	1453	1749	1781	887	586	1155	1690	346	907	1017	1499	1794	1049	1137	357	1508	1982	1464	1280	1446	1316	2145	2028	2083		1828	1272	504	653	1114	1983	1954
PITTSBURGH, PA.	521	608	1127	483	178	168	1298	410	115	448	1070	1320	715	205	1590	1652	1137	330	703	781	779	2136	344	1010	446	743	472	919	317	318	259	1828		559	1668	2264	2138	192	442
ST. LOUIS, MO.	467	400	779	1038	662	465	795	262	492	603	547	796	273	455	1034	1236	679	231	751	238	291	1589	242	1061	327	466	254	598	875	771	811	1272	559		1162	1744	1724	712	746
SALT LAKE CITY, UTAH	1583	1466	694	2099	1699	1616	371	1260	1568	1751	999	371	953	1492	689	403	1200	1356	1837	925	1148	579	1402	2089	1242	987	1393	1434	1972	1927	1925	504	1668	1162		600	701	1848	1906
SAN FRANCISCO, CALIF.	2139	2013	1265	2699	2300	2205	967	1858	2166	2317	1483	949	1550	2091	995	807	1645	1949	2374	1506	1688	347	1986	2594	1842	1584	1963	1926	2571	2515	2523	653	2264	1744	600		678	2442	2479
SEATTLE, WASH.	2182	2082	1013	2493	2117	2132	973	1737	2026	2326	1681	1021	1467	1938	1376	490	1891	1872	2455	1506	1785	959	1943	2734	1692	1395	1975	2101	2408	2436	2380	1114	2138	1724	701	678		2329	2460
WASHINGTON, D. C.	543	661	1318	393	292	253	1477	597	306	405	1185	1494	896	396	1728	1842	1220	494	647	945	892	2300	476	923	637	934	569	966	205	146	123	1983	192	712	1848	2442	2329		326
WILMINGTON, N. C.	371	512	1474	673	598	350	1540	745	541	178	1091	1537	993	623	1661	1969	1066	593	346	981	818	2294	516	598	810	1100	517	769	499	203	423	1954	442	746	1906	2479	2460	326	

This distance table was compiled from information prepared by the United States Department of Commerce Coast and Geodetic Survey.

3 & 4 section crank up Tiltover Tower in heights up to 175 ft.



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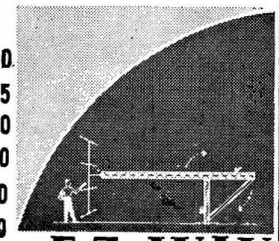

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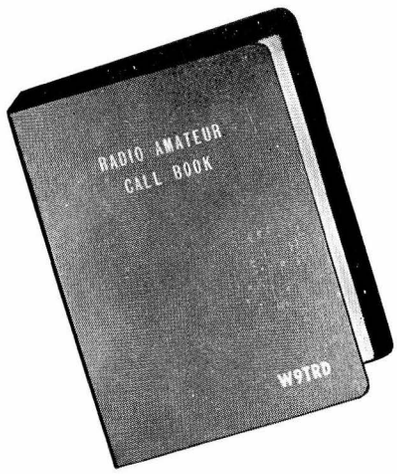

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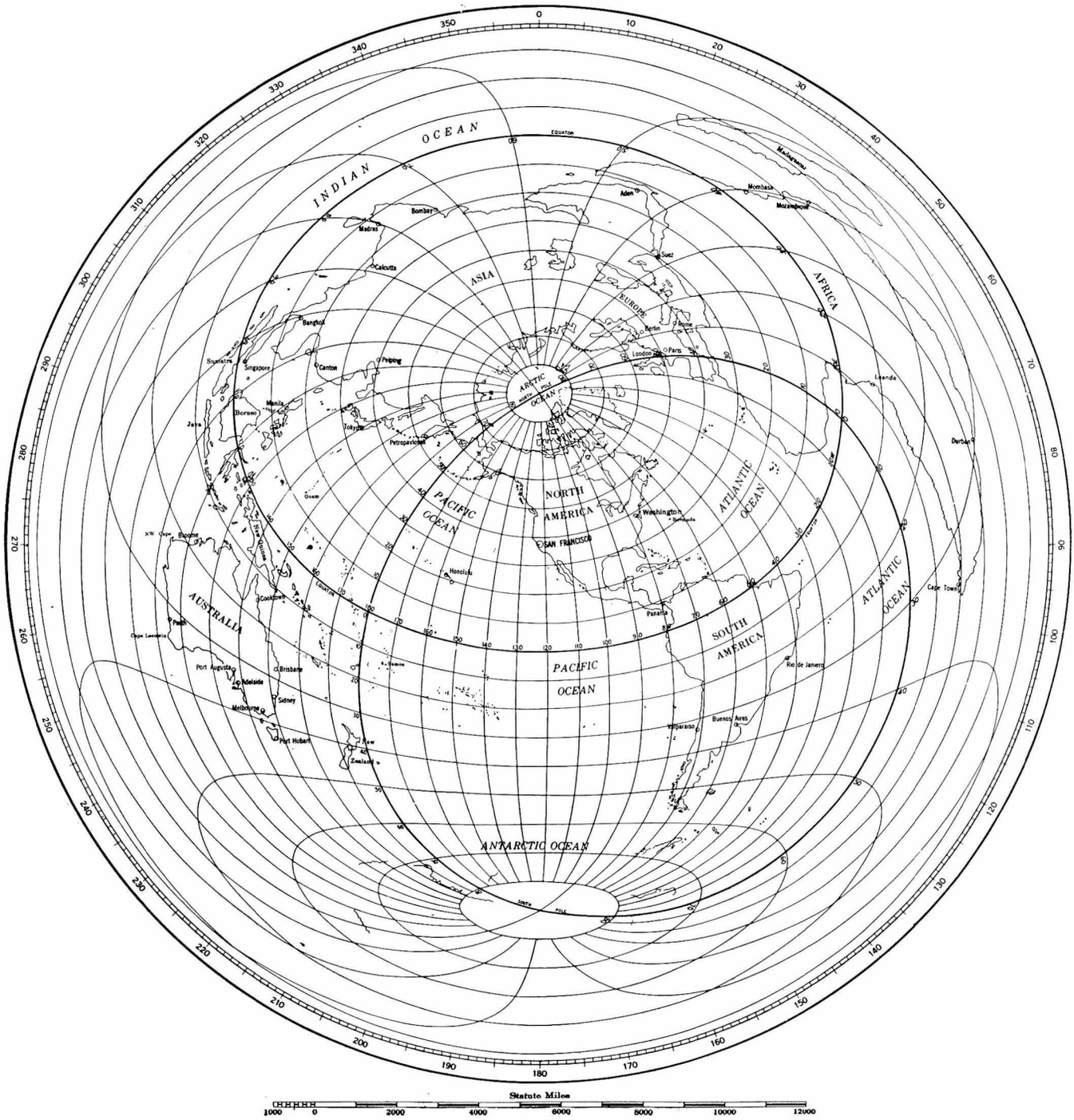
Great Circle Chart of the World Centered on

SAN FRANCISCO, CALIFORNIA



To find the great circle bearing of any point in the world from San Francisco draw a straight line from the center and note the reading in degrees as indicated on the outer scale. The bar scale may be used to determine the approximate distance. This map was prepared by the Hydrographic Office of the U. S. Navy Department.

Federal Communications Commission Examination Points

Examinations for commercial and amateur radio operator licenses are conducted at the following F.C.C. field offices on the days designated by the Engineer in Charge of each office. Specific dates should be obtained from the Engineer in Charge.

Radio District	Address of the Engineer in charge
1	BOSTON 9, MASSACHUSETTS 1600 Custom House
2	NEW YORK 14, NEW YORK 748 Federal Building 641 Washington Street
3	PHILADELPHIA 6, PENNSYLVANIA 1005 New U. S. Customhouse
4	BALTIMORE 2, MARYLAND 400 McCawley Building 400 E. Lombard Street
5	NORFOLK 10, VIRGINIA 402 Federal Building
6	ATLANTA 3, GEORGIA 718 Atlanta National Bldg., 50 Whitehall St., S.W.
6S	SAVANNAH, GEORGIA (P. O. 77) 214 Post Office Building
7	MIAMI 1, FLORIDA 312 Federal Building
7T	TAMPA 6, FLORIDA Rm. 201-221 N. Howard Ave.
8	NEW ORLEANS 12, LOUISIANA 608 Federal Office Building 600 South Street
8M	MOBILE 10, ALABAMA 419 U. S. Court and Customs House
9	HOUSTON 11, TEXAS 326 U. S. Appraisers Building 7300 Wingate Street
9B	BEAUMONT, TEXAS (P. O. Box 1527) 301 Post Office Building 300 Willow Street
10	DALLAS 2, TEXAS 401 States General Life Insurance Bldg. 708 Jackson Street
11	LOS ANGELES 14, CALIFORNIA Mez 50, 849 South Broadway
11SD	SAN DIEGO 1, CALIFORNIA Fox Theater Building 1245 Seventh Avenue
12	SAN FRANCISCO 26, CALIFORNIA 323-A Customhouse 555 Battery Street
13	PORTLAND 5, OREGON 201 U. S. Court House 620 S. W. Main Street
14	SEATTLE 4, WASHINGTON 802 Federal Office Building 1st Avenue and Marion
15	DENVER 2, COLORADO 521 New Customhouse 19th between California & Stout Streets
16	ST. PAUL 2, MINNESOTA 208 Federal Courts Buliding 6th & Market Streets
17	KANSAS CITY 6, MISSOURI 3100 Federal Office Building 911 Walnut Street
18	CHICAGO 4, ILLINOIS 826 U. S. Courthouse 219 South Clark Street
19	DETROIT 26, MICHIGAN 1029 Federal Building
20	BUFFALO 3, NEW YORK 328 Post Office Building Ellicott and Swan Streets
21	HONOLULU 13, HAWAII 502 Federal Bldg. P. O. Box 1021
22	SAN JUAN 13, PUERTO RICO 322-323 Federal Building Post Office Box 2987
23	ANCHORAGE, ALASKA Room 55, U. S. Post Office Bldg.
23J	JUNEAU, ALASKA 6 Shattuck Building
24	WASHINGTON 25, D. C. 718 Jackson Pl., N. W.

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E18	AX2	3500-4000 kc	*	2.95
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*NOTE: We will supply to integral spot frequencies (no fractions) as ordered; calibration ±500 cycles in factory test oscillator.				
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E22	MC9	3 mc-12 mc experimental freq.	±.03%	6.50
E22A	SR10	12 mc-27.5 mc experimental freq.	±.03%	8.50
CRYSTAL FILTERS CITIZEN'S SERVICE STANDARD FREQUENCIES				
E10	KV3	reference frequency 100 kc	±.005%	8.50
E27	MS433A	reference frequency 1000 kc	±.005%	17.00
E11A	MC9	marker frequency 1000 kc	±.05%	8.00
E15	CF6	455 kc—456 kc—465 kc Single Signal Filters	±5 kc	4.50

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ARRL Phonetic Alphabet

A ADAM
B BAKER
C CHARLIE
D DAVID
E EDWARD
F FRANK
G GEORGE
H HENRY
I IDA
J JOHN
K KING
L LEWIS
M MARY
N NANCY
O OTTO
P PETER
Q QUEEN
R ROBERT
S SUSAN
T THOMAS
U UNION
V VICTOR
W WILLIAM
X X-RAY
Y YOUNG
Z ZEBRA

ON GOOD PHONE OPERATING

1. *Listen much . . . with care.* Avoid distractions in your operating room. Tune the band well after each call.
2. *Time your calls; monitor your own frequency.* Call only when a station is free.
3. *Make short calls, with breaks to listen.* Speak clearly, at a steady, modest rate. Three short calls are better than one long one.
4. *Use push-to-talk technique . . . speak near the mike.* Watch the modulation indicator. Keep local background noise at a minimum.
5. *Make notes. Avoid missing points for comment.* Jot down topics to avoid repeats.
6. *Talk in connected thoughts and phrases.* Notes will help avoid mixing up subjects. Push-to-talk technique will keep brother amateurs from calling you a monologuist.
7. *Speak naturally.* QSOs need not be cut and dried. Make them interesting. Avoid exhibitionism. Use proper operating form to promote efficiency in communication and add respect and prestige for your station.

Use of this standard list is recommended by ARRL. Haphazard selection of words often results in confusion. A degree of uniformity in use of phonetic words reflects favorably on your individual operating, and on the whole amateur service.

ARRL Communications Department.

Great Circle Chart of the World Centered on
THE UNITED STATES

To find the great circle bearing to any point in the world from the center of the United States, draw a straight line from the star and note the reading in degrees on the outer scale. The bar scale at the bottom of the chart can be used to determine the distance in statute miles. For bearings to the nearest degree reference is invited to the table on the opposite Page. The outlines of this chart were prepared by the U.S. Coast and Geodetic Survey.

GREAT CIRCLE BEARINGS

FROM THE CENTER OF THE

UNITED STATES

The table below shows the great circle bearing in degrees from the exact center of the United States to countries throughout the world having licensed radio amateurs. Where cities are shown the bearing to the nearest degree is given. These bearings were compiled from information supplied by the U. S. Coast and Geodetic Survey.

Prefix	Country	Bearing
AC3	SIKKIM	352
AC4	TIBET, Lhasa	350
AG2	TRIESTE	41
AP	PAKISTAN, Karachi	13
AR8	LEBANON, Beyrouth	36
C	CHINA, Chungking	335
	Pekin	333
	Shanghai	325
CE	CHILE, Santiago	156
CM	CUBA, Havana	135
CN8	FRENCH MOROCCO, Casablanca	62
CP	BOLIVIA, La Paz	146
CR4	CAPE VERDE ISLANDS	87
CR5	PORTUGUESE GUINEA	84
CR6	ANGOLA, Nova Lisboa	83
CR7	MOZAMBIQUE, Lourenco Marques	85
	Mozambique	65
CR8	GOA	7
CR9	MACAU	327
CR10	TIMOR ISLAND	295
CT1	PORTUGAL, Lisbon	59
CT2	AZORES ISLANDS	67
CT3	MADERIA ISLANDS	68
CX	URUGUAY, Montevideo	145
DL	GERMANY, Berlin	37
DU	PHILIPPINE ISLANDS, Manila	316
EA	SPAIN, Madrid	54
EA6	BALEARIC ISLANDS	52
EA8	CANARY ISLANDS	71
EA9	SPANISH MOROCCO	59
EI	IRELAND, Dublin	43
EK1	TANGIER ZONE	60
EL	LIBERIA, Monrovia	86
EP	IRAN, Tehran	23
ET	ETHOPIA, Addis Ababa	48
F	FRANCE, Paris	44
FA	ALGERIA, Algiers	54
FB8	MADAGASCAR, Antsirana	53
	Tananarive	63
FC	CORSICA	46
FD8	TOGOLAND	77
FE8	FRENCH CAMEROONS	72
FF8	FRENCH WEST AFRICA, Dakar	84
FG8	GUADELOUPE	114
FI8	FRENCH INDO CHINA, Saigon	328
FK8	NEW CALEDONIA, Noumea	254
FL8	FRENCH SOMALILAND, Djibouti	42
FM8	MARTINIQUE	117
FO8	FRENCH OCEANIA, Tahiti	229
FP8	MIQUELON and ST. PIERRE IS.	64
FQ8	FRENCH EQUATORIAL AFRICA	65
FR8	REUNION ISLAND	55
FT4	TUNISIA, Tunis	50
FU8	NEW HEBRIDES	259
FY8	FRENCH GUIANA, Cayenne	117
G	ENGLAND, London	43
GC	CHANNEL ISLANDS	45
GD	ISLE OF MAN	41
GI	NORTHERN IRELAND, Belfast	42
GM	SCOTLAND, Glasgow	40
GW	WALES	43
HA	HUNGARY, Budapest	37
HB	SWITZERLAND, Bern	43
HC	ECUADOR, Quito	148
HC8	GALAPAGOS ISLANDS	167
HE1	LEICHTENSTEIN	43
HH	HAITI, Port-au-Prince	124
HI	DOMINICAN REPUBLIC	122
HK	COLOMBIA, Bogota	140
HM	KOREA, Seoul	324
HP	PANAMA	145
HR	HONDURAS	152
HS	SIAM, Bangkok	336
HV	VATICAN CITY	45
HZ	SAUDI ARABIA	34
I	ITALY, Rome	45
IS	SARDINIA	48
JA	JAPAN, Tokyo	315
KB6	BAKER ISLAND	262
KC6	CAROLINE ISLANDS	260
KG4	GUANTANAMO BAY, Cuba	126
KG6	GUAM	297
KG6I	IWO JIMA ISLAND	317
KG6S	SAIPAN ISLAND	297
KG6T	TINIAN ISLAND	297
KH6	HAWAIIAN ISLANDS, Honolulu	267
KJ6	JOHNSTON ISLAND	270
KL7	ALASKA, Anchorage	322
	Fairbanks	329
KM6	MIDWAY ISLAND	288
KP4	PUERTO RICO	117
KP6	PALMYRA ISLAND	256
KR6	OKINAWA ISLAND	318
KS4	SWAN ISLAND	144
KS6	SAMOA	248
KV4	VIRGIN ISLANDS	115
KW6	WAKE ISLAND	287
KX6	MARSHALL ISLANDS	276
KZ5	CANAL ZONE	145
LA	NORWAY, Oslo	29
LI	LIBYA, Tripoli	51
LU	ARGENTINA, Buenos Aires	147
LX	LUXEMBOURG	42
LZ	BULGARIA, Sofia	38
MB9	AUSTRIA, Vienna	38
MD1	CIRENAICA	46
MD2	TRIPOLITANIA	51
MD3	ERITREA, Asmara	44
MD4	BRITISH SOMALILAND	40
MD5	SUEZ CANAL ZONE	40
MD6	IRAQ, Baghdad	30
MD7	CYPRUS	37
MF2	TRIESTE (British)	41
MI3	ERITREA, Asmara	44
MP4	BAHREIN ISLANDS and OMAN	28
OA	PERU, Lima	153
OH	FINLAND, Helsinki	25
OE	AUSTRIA, Vienna	38
OK	CZECHOSLOVAKIA, Prague	38
ON	BELGIUM, Brussels	41
OQ5	BELGIAN CONGO, Elisabethville	74
	Leopoldville	76
	Stanleyville	65
OX	GREENLAND, Godthaab	34
OY	FAEROES ISLANDS	34
OZ	DENMARK, Copenhagen	34
PA	NETHERLANDS, Amsterdam	40
PK	JAVA, Batavia	317
PK4	SUMATRA	328
PK5	BORNEO	314
PK6	CELEBES ISLAND	305
PK7	NETHERLAND NEW GUINEA	290
PX	ANDORRA	50
PY	BRAZIL, Natal	112
	Rio de Janeiro	129
PZ	SURINAM, (Netherland Guiana)	121
SM	SWEDEN, Stockholm	29
SP	POLAND, Warsaw	33
ST	ANGLO-EGYPTIAN SUDAN, Khartoum	49
SU	EGYPT, Cairo	41
SV	GREECE, Athens	41
SV5	DODECANESE ISLANDS	40
TA	TURKEY, Ankara	35
TF	ICELAND, Reykjavik	35
TG	GUATEMALA, Guatemala City	161
TI	COSTA RICA	150
TR	LIBYA, Tripoli	51
TT	TANNU TUVA, Kyzyl Khoto	351
U	SOVIET UNION, Moscow	23
UB5	UKRAINE	30
UC5	WHITE RUSSIA	25
UD6	AZERBAIJAN	23
UF6	GEORGIA	28
UG6	ARMENIA	26
UH8	TURKOMAN	19
UI8	UZBEK	12
UJ8	TADZHIK	7
UL7	KAZAKH	10
UM8	KIRGHIZ	5
UN1	KARELO-FINNISH REPUBLIC	20
UO5	MOLDAVIA	32
UP	LITHUANIA	30
UQ	LATVIA	29
UR	ESTONIA	27
VE1	CANADA, Halifax	68
VE2	Montreal	64
VE3	Toronto	77
VE4	Winnipeg	10
VE5	Saskatoon	339
VE6	Edmonton	330
VE7	Vancouver	308
VE8	Fort Nelson	333
VK1	HEARD ISLAND	163
VK2	AUSTRALIA, Sydney	252
VK3	Melbourne	250
VK4	Brisbane	257
VK5	Darwin	287
VK6	Perth	274
VK7	TASMANIA, Hobart	243
VK9	NORFOLK ISLAND	248
	PAPUA TERRITORY, Port Moresby	277
VO	NEWFOUNDLAND, St. John's	59
VP1	BRITISH HONDURAS	152
VP2	LEEWARD and WINDWARD ISLANDS	112
VP3	BRITISH GUIANA, Georgetown	120
VP4	TRINIDAD	120
VP5	JAMAICA	127
VP6	BARBADOS ISLANDS	112
VP7	BAHAMAS ISLANDS	121
VP8	FALKLAND ISLANDS	156
	South Georgia Island	147
	South Orkney Islands	155
VP9	BERMUDA	94
VQ1	ZANZIBAR	57
VQ2	NORTHERN RHODESIA, Lusaka	77
VQ3	TANGANYIKA, Dar-Es-Salaam	59
VQ4	KENYA, Nairobi	56
VQ5	UGANDA	59
VQ6	BRITISH SOMALILAND	40
VQ8	CHAGOS ISLANDS	14
	Mauritius	51
VQ9	SEYCHELLES	38
VR1	GILBERT ISLANDS	267
VR2	FIJI ISLANDS	251
VR3	FANNING ISLAND	252
VR4	SOLOMON ISLANDS	270
VR5	TONGA ISLANDS	244
VR6	PITCAIRN ISLAND	208
VS	MALAYA, Singapore	326
VS4	BRITISH NORTH BORNEO	314
VS5	BRUNEI and SARAWAK	316
VS6	HONG KONG	326
VS7	CEYLON	1
VS9	ADEN, Aden	39
VU	INDIA, Bombay	8
	Calcutta	351
	Delhi	3
VU4	LACCADIVE ISLANDS	9
VU5	ANDAMAN ISLANDS	345
XE	MEXICO, Mexico City	178
XZ	BURMA, Rangoon	342
YA	AFGHANISTAN, Kandahar	13
YI	IRAQ, Baghdad	30
YJ	NEW HEBRIDES	260
YK	SYRIA	34
YN	NICARAGUA	150
YO	ROMANIA, Bucharest	36
YS	SALVADOR, San Salvador	156
YT	YUGOSLAVIA, Belgrade	39
YV	VENEZUELA, Caracas	126
ZA	ALBANIA, Tirana	41
ZB1	MALTA	48
ZB2	GIBRALTAR	58
ZC1	TRANSJORDAN	36
ZC2	COCOS ISLANDS	327
ZC3	CHRISTMAS ISLAND	315
ZC4	CYPRUS	37
ZD1	SIERRA LEONE, Freetown	81
ZD2	NIGERIA, Lagos	76
ZD3	GAMBIA	84
ZD4	GOLD COAST, Accra	80
ZD6	NYASALAND	69
ZD7	ST. HELENA	100
ZD8	ASENCION ISLAND	99
ZD9	TRISTAN da CUNHA	122
ZE	SOUTHERN RHODESIA, Salisbury	77
ZK1	COOK ISLANDS	234
ZK2	NIUE	242
ZL1	NEW ZEALAND, Auckland	238
ZL2	Wellington	234
ZL3	Christchurch	233
ZL4	Dunedin	231
ZM6	SAMOA (British)	248
ZP	PARAGUAY, Asuncion	141
ZS	UNION OF SOUTH AFRICA, Capetown	104
	Durban	91
	Johannesburg	89
ZS3	SOUTH WEST AFRICA, Windhoek	92
ZS7	SWAZILAND	87
ZS8	BASUTOLAND	93
ZS9	BECHUANALAND	87

GREAT CIRCLE BEARINGS IN THE UNITED STATES

	ATLANTA, GA.	BIRMINGHAM, ALA.	BISMARCK, N. D.	BOSTON, MASS.	BUFFALO, N. Y.	CHARLESTON, W. VA.	CHEYENNE, WYO.	CHICAGO, ILL.	CLEVELAND, OHIO	COLUMBIA, S. C.	DALLAS, TEXAS	DENVER, COLORADO	DES MOINES, IOWA	DETROIT, MICH.	EL PASO, TEXAS	HELENA, MONTANA	HOUSTON, TEXAS	INDIANAPOLIS, IND.	JACKSONVILLE, FLA.	KANSAS CITY, MO.	LITTLE ROCK, ARK.	LOS ANGELES, CALIF.	LOUISVILLE, KY.	MIAMI, FLORIDA	MILWAUKEE, WIS.	MINNEAPOLIS, MINN.	NASHVILLE, TENN.	NEW ORLEANS, LA.	NEW YORK, N. Y.	NORFOLK, VA.	PHILADELPHIA, PA.	PHOENIX, ARIZONA	PITTSBURGH, PA.	ST. LOUIS, MO.	SALT LAKE CITY, UTAH	SAN FRANCISCO, CALIF.	SEATTLE, WASHINGTON	WASHINGTON, D. C.	WILMINGTON, N. C.
ATLANTA, GA.		264	322	47	24	25	301	343	15	86	269	297	320	7	271	310	251	347	145	306	281	281	347	154	345	331	321	234	48	64	48	278	27	318	296	289	308	48	84
BIRMINGHAM, ALA.	82		326	50	31	40	304	356	26	84	268	299	328	17	270	312	246	5	125	314	287	281	10	142	355	338	0	219	52	67	53	278	37	333	298	290	309	53	83
BISMARCK, N. D.	132	137		92	97	115	209	114	105	124	167	205	133	104	198	273	165	119	132	148	150	233	123	135	109	108	131	151	99	111	102	217	106	134	237	249	282	107	119
BOSTON, MASS.	236	241	291		277	247	278	273	267	226	254	275	275	274	262	293	246	263	220	268	253	273	256	207	278	286	249	237	235	219	233	268	258	262	280	280	295	236	217
BUFFALO, N. Y.	208	217	291	92		206	273	264	237	192	241	269	268	261	252	290	231	243	191	258	237	267	231	184	274	286	225	219	118	160	134	261	199	248	276	276	293	159	174
CHARLESTON, W. VA.	208	223	307	61	24		287	309	359	174	251	282	293	345	260	300	238	293	180	279	251	274	270	174	316	311	245	223	66	108	71	269	31	275	286	282	301	80	143
CHEYENNE, WYO.	108	112	26	76	76	91		81	81	103	140	187	83	79	189	319	143	90	113	101	119	241	95	119	76	62	104	128	81	92	83	219	84	98	268	262	303	87	100
CHICAGO, ILL.	161	175	302	82	78	125	272		93	144	221	266	268	80	242	293	210	151	155	245	208	262	157	156	350	308	173	190	91	116	97	254	101	212	274	272	295	106	131
CLEVELAND, OHIO	197	209	297	80	55	179	277	277		176	240	272	275	310	252	293	228	245	180	261	235	268	226	175	290	296	219	214	95	136	105	262	127	250	278	277	296	124	156
COLUMBIA, S. C.	268	267	317	41	10	354	299	329	356		270	295	311	350	271	308	256	326	189	300	279	282	320	174	331	323	297	246	39	53	37	279	7	305	295	290	307	33	85
DALLAS, TEXAS	81	82	349	57	49	61	325	36	50	80		319	15	45	266	325	157	47	97	15	61	280	55	112	32	11	65	115	60	71	61	277	55	40	308	291	315	63	80
DENVER, COLORADO	103	107	22	73	72	87	6	75	77	99	134		74	74	189	325	138	84	109	91	112	246	90	116	70	55	98	124	78	88	80	224	80	91	283	267	308	83	96
DES MOINES, IOWA	134	144	318	80	78	105	271	84	87	123	197	262		81	231	297	187	105	135	197	171	257	116	141	69	5	133	165	87	104	91	247	92	137	273	270	296	97	115
DETROIT, MICH.	188	200	295	86	79	164	273	263	129	168	233	268	268		248	291	222	224	174	254	227	265	208	171	282	292	206	207	100	133	109	258	128	238	275	274	294	124	151
EL PASO, TEXAS	77	78	14	58	54	64	8	50	56	76	79	8	42	53		345	98	57	86	48	71	285	62	97	46	33	68	92	61	69	62	290	59	57	335	298	327	64	75
HELENA, MONTANA	112	116	85	84	88	100	133	97	93	108	134	141	105	92	162		136	101	115	115	122	203	105	119	94	91	111	127	89	98	92	180	94	109	179	224	283	95	104
HOUSTON, TEXAS	64	60	348	50	40	49	329	25	39	67	338	325	6	34	285	327		34	84	3	26	288	40	103	22	5	46	86	52	60	53	289	45	24	314	297	319	5[illegible]	68
INDIANAPOLIS, IND.	166	185	308	72	58	110	281	332	62	143	234	276	290	41	250	298	220		157	267	226	267	168	158	338	316	188	199	80	107	85	261	80	251	281	277	298	94	127
JACKSONVILLE, FLA.	327	309	324	33	9	1	308	339	0	8	286	304	323	355	282	314	273	340		314	300	288	338	163	341	332	326	271	29	34	28	287	8	323	303	295	312	23	39
KANSAS CITY, MO.	120	129	332	72	67	90	288	60	73	111	196	278	15	66	236	306	184	82	126		157	262	95	134	50	9	113	157	78	93	81	253	79	97	282	275	302	85	105
LITTLE ROCK, ARK.	97	104	335	59	48	65	307	26	48	92	243	300	352	41	260	315	208	43	114	338		276	55	128	21	356	71	158	62	76	64	271	56	22	297	286	309	67	89
LOS ANGELES, CALIF.	81	82	41	62	61	70	52	62	65	79	88	57	60	62	100	19	96	67	87	67	81		70	94	59	52	76	92	65	71	66	95	67	69	35	319	348	68	78
LOUISVILLE, KY.	166	190	313	66	47	87	287	339	43	137	242	282	301	26	256	302	227	348	156	280	239	271		158	342	322	202	205	71	98	75	266	63	278	285	281	301	82	120
MIAMI, FLORIDA	337	326	329	22	3	355	313	342	356	355	302	310	329	353	291	318	290	342	345	321	315	293	341		342	335	334	298	18	16	15	293	1	330	308	299	315	11	13
MILWAUKEE, WIS.	162	175	297	87	88	132	267	170	107	147	218	261	253	99	239	290	207	157	156	235	204	259	160	157		298	172	188	98	121	103	251	111	203	271	270	293	113	135
MINNEAPOLIS, MINN.	145	154	291	91	96	123	248	125	108	135	193	242	184	105	227	283	186	132	144	189	175	248	137	146	114		148	169	99	116	104	237	110	159	259	261	287	111	127
NASHVILLE, TENN.	140	180	320	59	40	61	295	354	36	114	251	290	318	24	261	307	231	8	142	298	254	275	22	150	353	333		205	63	83	65	271	50	313	291	285	305	68	103
NEW ORLEANS, LA.	50	37	337	46	32	38	318	9	28	60	299	313	347	22	283	321	270	17	86	339	339	288	22	114	7	351	23		46	56	47	287	35	359	308	296	315	47	64
NEW YORK, N. Y.	233	240	296	54	303	251	281	281	280	223	255	278	280	286	262	294	244	269	213	271	253	274	259	202	287	293	251	237		205	229	269	269	266	283	282	297	235	208
NORFOLK, VA.	249	253	306	35	342	291	290	303	319	236	264	286	295	318	268	301	253	294	217	285	267	279	284	198	308	307	269	244	25		16	274	322	284	289	286	302	343	208
PHILADELPHIA, PA.	233	240	298	52	317	255	283	285	289	221	255	279	283	294	263	296	246	273	212	273	255	275	263	199	292	296	252	235	49	197		270	279	269	284	282	298	235	203
PHOENIX, ARIZONA	80	83	29	61	59	69	35	58	62	79	89	40	55	59	108	0	100	64	89	62	80	277	70	97	55	45	74	93	64	72	66		64	66	1	300	334	68	79
PITTSBURGH, PA.	210	221	300	72	18	213	280	286	308	188	246	276	281	310	257	295	235	264	189	268	244	271	246	181	296	299	234	222	85	140	96	265		261	281	279	297	123	165
ST. LOUIS, MO.	134	150	320	70	60	90	287	30	63	119	224	280	319	53	248	303	207	68	137	280	204	267	94	143	20	342	130	179	75	95	79	260	74		284	278	301	84	110
SALT LAKE CITY, UTAH	99	101	50	73	74	86	83	79	78	95	118	98	80	76	152	359	123	84	103	91	104	220	88	109	75	67	95	114	78	86	80	181	80	90		254	315	83	92
SAN FRANCISCO, CALIF.	86	86	54	66	67	75	70	70	70	83	96	75	70	68	109	39	101	73	90	77	88	136	77	96	67	62	81	97	69	76	71	114	71	77	66		1	73	81
SEATTLE, WASHINGTON	103	105	87	81	84	94	111	92	89	100	118	116	97	88	136	96	120	95	105	103	109	165	97	109	90	88	102	114	85	92	87	147	89	100	128	181		90	97
WASHINGTON, D. C.	233	240	302	52	342	263	285	293	307	215	256	281	287	308	263	298	245	280	205	277	257	275	268	192	300	302	254	235	53	163	53	270	305	273	285	283	300		189
WILMINGTON, N. C.	267	267	313	32	355	325	297	318	339	267	270	293	306	335	274	307	258	313	222	296	278	283	305	194	322	317	289	251	25	27	21	278	346	298	295	290	306	9	

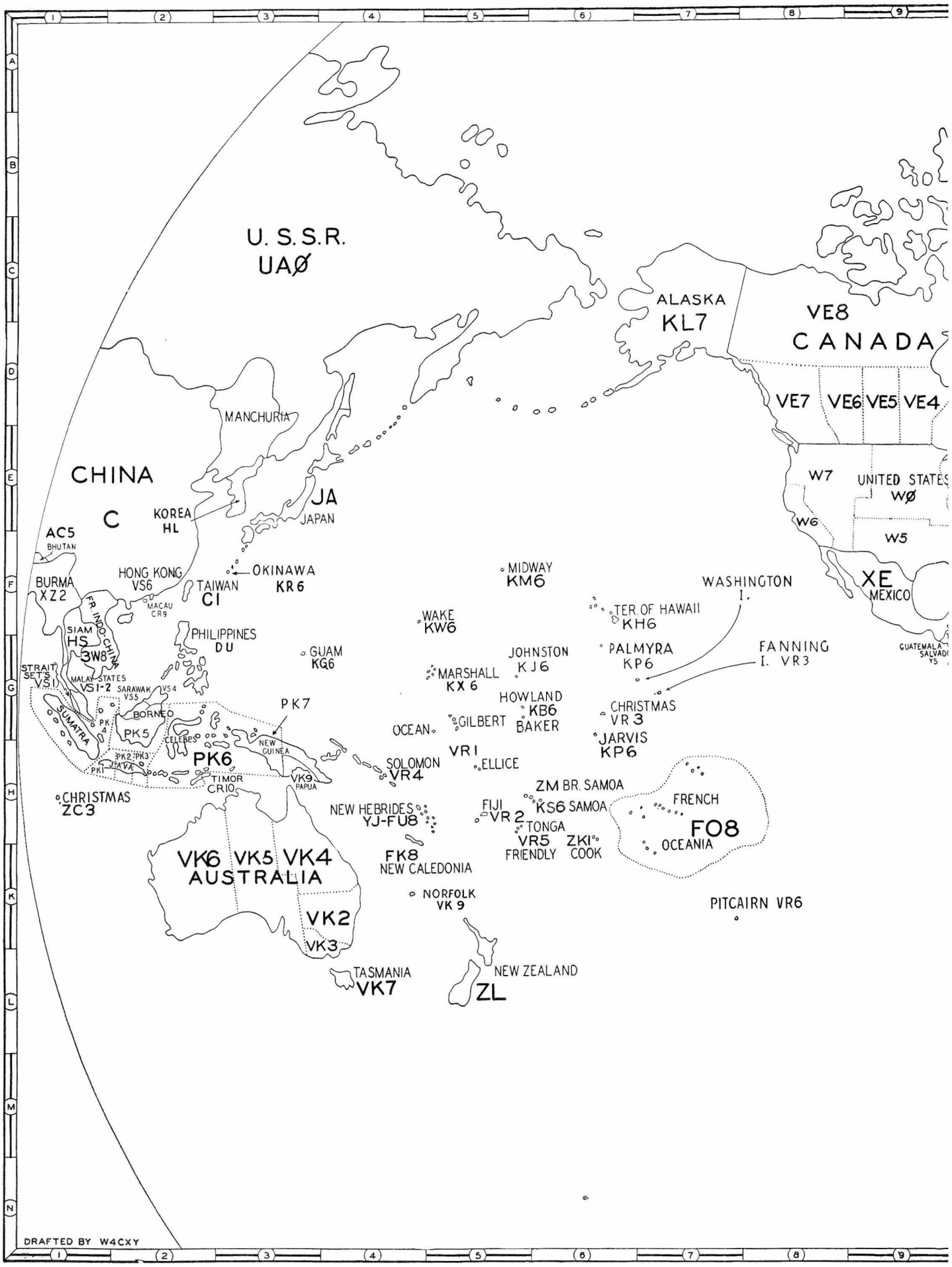
The above table shows the great circle bearing in degrees, of various metropolitan areas in the United States in relationship to each other. This table should be used from left to right only. To find the great circle bearing between any two of the cities shown, start at the left and follow the horizontal line to the right until you come to the column directly under the name of the city that you desire to beam a radio signal to. For all practical purposes in the United States, Polaris (the North Star), is due north. To find this star, to calibrate a directional radio beam, look for the first star on a straight line with the two outer stars on the outside edge of the cup of the big dipper. This table was compiled from information furnished by the U. S. Coast and Geodetic Survey. **Copyright 1947, Radio Amateur Call Book, Inc.**

GREAT CIRCLE BEARINGS FROM THE UNITED STATES TO VARIOUS WORLD WIDE METROPOLITAN AREAS

	AMSTERDAM, HOLLAND	ANCHORAGE, ALASKA	ASUNCION, PARAGUAY	AUCKLAND, NEW ZEALAND	BOGOTA, COLOMBIA	BOMBAY, INDIA	BERN, SWITZERLAND	BRUSSELS, BELGIUM	BUENOS AIRES, ARGENTINA	CAIRO, EGYPT	CAPETOWN, SOUTH AFRICA	CARACAS, VENEZUELA	COPENHAGEN, DENMARK	GUATEMALA CITY, GUATEMALA	HAVANA, CUBA	HELSINKI, FINLAND	HONOLULU, T. H.	JOHANNESBURG, SOUTH AFRICA	LA PAZ, BOLIVIA	LIMA, PERU	LONDON, ENGLAND	MADRID, SPAIN	MANILA, PHILIPPINE ISLANDS	MEXICO CITY, MEXICO	MONTEVIDEO, URUGUAY	MONTREAL, CANADA	OSLO, NORWAY	PARIS, FRANCE	PRAGUE, CZECHOSLOVAKIA	QUITO, ECUADOR	RIO DE JANEIRO, BRAZIL	ROME, ITALY	SAN JOSE, COSTA RICA	SANTIAGO, CHILE	SHANGHAI, CHINA	SINGAPORE, MALAYA	STOCKHOLM, SWEDEN	SYDNEY, AUSTRALIA	TOKYO, JAPAN
ATLANTA, GA.	43	325	153	242	160	26	48	45	158	51	114	141	38	198	170	30	280	102	160	170	45	58	329	227	156	32	34	47	42	170	139	51	179	168	336	346	33	254	324
BIRMINGHAM, ALA.	42	325	151	241	155	23	47	44	156	50	113	137	37	191	158	29	279	101	157	167	44	57	327	221	154	36	33	47	42	165	137	50	173	166	334	342	32	253	323
BISMARCK, N. D.	42	315	141	240	143	7	45	43	146	40	97	131	35	162	142	27	261	81	146	154	45	56	317	177	145	84	33	46	39	151	129	46	153	155	325	328	30	256	314
BOSTON, MASS.	51	321	167	253	186	36	56	53	169	60	117	172	45	217	210	36	284	105	177	187	53	68	346	235	168	331	40	56	50	191	153	59	205	181	349	7	39	270	335
BUFFALO, N. Y.	49	320	160	250	172	29	53	51	163	55	112	159	42	203	189	34	279	99	168	178	51	65	338	222	161	54	38	53	47	179	146	56	189	173	342	356	37	266	329
CHARLESTON, W. VA.	46	322	156	246	167	28	50	47	160	53	113	151	40	201	183	32	279	101	164	174	48	61	334	224	159	37	36	50	45	175	143	53	185	170	339	351	35	259	327
CHEYENNE, WYO.	38	322	138	236	135	3	41	40	143	37	100	122	32	151	127	24	263	84	141	148	41	52	312	166	142	69	30	42	36	143	126	42	144	152	322	321	27	250	312
CHICAGO, ILL.	45	320	152	245	158	21	49	47	156	49	108	144	39	186	165	31	274	95	158	167	48	60	328	207	154	66	36	50	44	167	138	51	173	166	335	343	34	260	323
CLEVELAND, OHIO	47	320	157	247	167	27	52	49	161	53	111	153	41	198	182	33	278	99	165	174	50	63	334	219	159	53	37	52	46	175	143	54	184	171	340	352	36	263	327
COLUMBIA, S. C.	44	324	156	243	166	29	49	46	161	53	115	148	39	206	186	31	281	103	164	175	46	59	333	232	159	24	35	48	44	175	142	52	187	171	339	352	34	255	327
DALLAS, TEXAS	39	326	142	237	138	12	43	41	148	44	110	122	34	161	123	26	274	97	146	154	42	53	317	189	147	48	31	43	38	149	130	45	150	157	326	326	29	249	317
DENVER, COLORADO	38	323	137	235	133	2	41	39	143	37	101	120	32	149	124	24	264	85	141	147	41	52	312	164	142	66	29	42	35	142	125	42	142	152	321	320	27	249	312
DES MOINES, IOWA	43	320	146	242	149	15	47	44	151	45	105	135	37	173	149	28	270	90	152	160	46	58	323	194	150	68	34	47	41	158	134	48	162	161	330	335	32	256	319
DETROIT, MICH.	47	320	156	247	166	25	51	49	160	52	110	151	41	195	178	32	277	97	163	173	50	63	333	216	159	62	37	52	46	173	142	54	182	169	339	350	35	263	326
EL PASO, TEXAS	36	329	135	233	125	1	39	37	142	37	108	111	30	136	106	22	270	94	137	142	38	49	308	150	140	52	27	40	34	135	124	41	131	149	319	313	25	245	312
HELENA, MONTANA	36	318	133	233	130	355	39	38	138	31	89	119	30	144	124	22	252	71	136	142	39	49	308	154	137	78	28	40	33	138	121	39	138	147	317	316	25	249	307
HOUSTON, TEXAS	39	328	143	237	137	15	43	41	149	45	113	120	34	162	116	26	277	100	147	154	41	53	317	199	147	41	30	43	38	149	130	46	150	158	327	326	29	247	318
INDIANAPOLIS, IND.	45	321	153	244	160	23	49	47	157	50	110	144	39	190	168	31	276	97	160	169	47	60	329	212	155	54	35	49	43	168	139	52	176	167	336	345	34	259	324
JACKSONVILLE, FLA.	42	326	155	242	163	30	48	44	160	53	117	142	37	209	185	30	283	105	163	173	44	57	331	239	158	20	33	47	42	174	141	51	187	170	338	350	33	251	326
KANSAS CITY, MO.	42	322	145	240	146	14	45	43	151	45	107	132	36	171	143	28	271	93	151	159	44	56	321	193	149	61	33	46	40	156	133	47	159	160	329	333	31	254	319
LITTLE ROCK, ARK.	41	325	146	240	147	17	45	43	152	47	111	130	36	175	141	28	275	98	152	160	43	56	322	203	150	47	32	45	40	157	134	48	161	161	330	334	31	252	320
LOS ANGELES, CALIF.	31	333	127	228	116	347	34	33	135	28	102	104	26	121	100	18	260	84	128	132	34	44	300	126	134	58	24	35	28	124	117	34	119	141	312	303	21	241	306
LOUISVILLE, KY.	44	322	153	244	160	23	49	46	157	50	111	144	39	191	168	30	277	98	160	169	47	60	329	215	156	47	35	49	43	168	139	51	176	167	336	345	33	257	324
MIAMI, FLORIDA	41	328	155	240	163	33	47	43	160	54	118	138	37	223	217	30	285	108	163	175	43	56	331	254	158	13	33	46	42	176	140	50	194	171	339	351	32	247	327
MILWAUKEE, WIS.	45	319	152	245	158	20	50	47	156	49	107	145	39	185	165	31	273	94	158	167	48	61	328	205	154	72	36	50	44	166	138	52	173	165	335	343	34	261	323
MINNEAPOLIS, MINN.	44	317	147	243	152	15	48	46	152	46	103	139	38	175	154	29	270	90	153	161	47	59	324	193	150	81	35	49	42	160	134	49	164	161	331	337	33	259	319
NASHVILLE, TENN.	43	323	151	242	157	23	48	45	156	50	112	140	38	190	162	30	277	99	158	167	46	58	328	216	155	43	34	48	42	166	138	50	174	166	335	343	33	255	324
NEW ORLEANS, LA.	40	327	147	239	146	21	45	42	153	48	114	127	35	182	133	28	279	102	152	161	43	55	322	220	151	35	32	45	40	158	135	48	163	162	331	334	30	249	321
NEW YORK, N. Y.	49	321	164	251	180	34	54	51	167	58	116	166	43	214	204	35	283	104	173	184	51	66	343	233	165	4	39	54	48	187	150	57	199	177	346	3	38	266	333
NORFOLK, VA.	46	323	161	247	176	33	51	48	165	56	116	160	41	213	203	33	283	104	170	181	48	62	339	235	163	12	36	51	46	184	147	55	197	175	344	0	36	260	331
PHILADELPHIA, PA.	48	322	163	249	178	33	53	50	166	57	115	164	42	212	202	34	282	103	172	182	50	65	341	232	164	11	38	53	48	185	149	56	197	176	345	2	37	264	332
PHOENIX, ARIZONA	34	330	131	231	121	354	37	35	138	33	105	108	28	129	104	20	265	89	133	138	36	47	304	137	137	56	26	38	31	130	121	38	126	146	316	308	23	243	309
PITTSBURGH, PA.	47	321	158	247	170	29	52	49	162	54	113	155	41	203	187	33	279	100	167	176	49	63	336	224	160	41	37	52	46	178	145	55	188	172	341	354	36	262	329
ST. LOUIS, MO.	43	322	149	242	153	19	47	45	154	48	109	137	37	181	156	29	274	96	155	164	46	58	325	204	152	55	34	47	42	162	136	49	167	163	332	339	32	256	321
SALT LAKE CITY, UTAH	35	325	132	232	127	355	38	36	139	32	96	114	29	138	116	21	258	79	135	141	38	48	307	149	136	67	27	39	32	135	121	38	134	146	317	313	24	247	308
SAN FRANCISCO, CALIF.	30	333	125	226	115	343	32	31	132	24	95	104	24	121	101	16	252	74	126	130	33	42	298	126	131	62	22	33	26	123	115	32	119	139	310	301	19	240	303
SEATTLE, WASHINGTON	31	321	125	227	120	345	33	32	131	23	79	110	25	131	113	17	240	58	128	133	34	43	300	138	130	75	24	35	27	128	113	32	127	139	309	306	20	243	301
WASHINGTON, D. C.	47	322	161	248	175	32	52	49	164	56	115	160	41	210	198	33	282	103	170	180	49	63	339	231	163	20	37	52	47	182	147	55	194	174	343	359	36	262	331
WILMINGTON, N. C.	45	324	159	245	172	32	50	47	163	55	116	154	39	213	200	32	283	105	168	179	47	60	337	237	161	15	35	49	45	181	145	53	194	173	342	357	34	256	329

The above table shows the great circle bearing in degrees, of various metropolitan areas in the United States in relationship to large cities throughout the world. This table should be used from left to right only. To find the great circle bearing between any two of the cities shown, start at the left and follow the horizontal line to the right until you come to the column directly under the name of the city that you desire to beam a radio signal to. For all practical purposes in the United States, Polaris (the North Star), is due north. To find this star, to calibrate a directional radio beam, look for the first star on a straight line with the two outer stars on the outside edge of the cup of the big dipper. This table was compiled from information furnished by the U. S. Coast and Geodetic Survey. **Copyright 1947, Radio Amateur Call Book, Inc.**

WORLD MAP SHOWING



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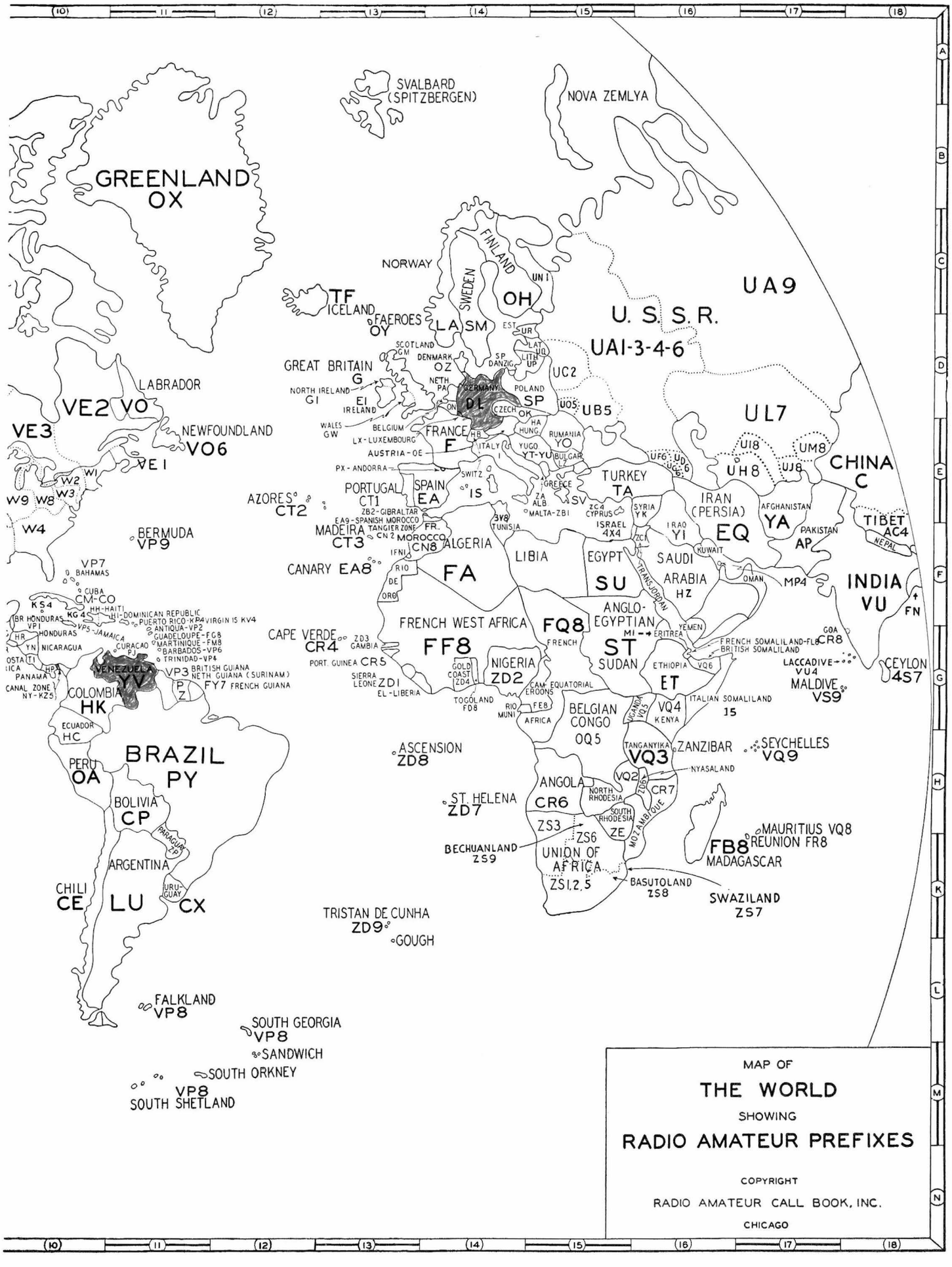

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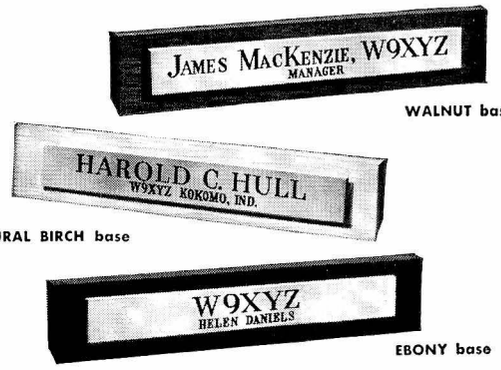

WALNUT base

NATURAL BIRCH base

EBONY base

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one or two lines; base 8½" x 2"

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- **Heavy nameplates of solid brass, bronze or aluminum.**
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- **Any wording up to 20 letters and numbers per line.**
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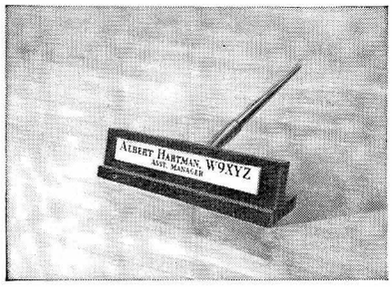

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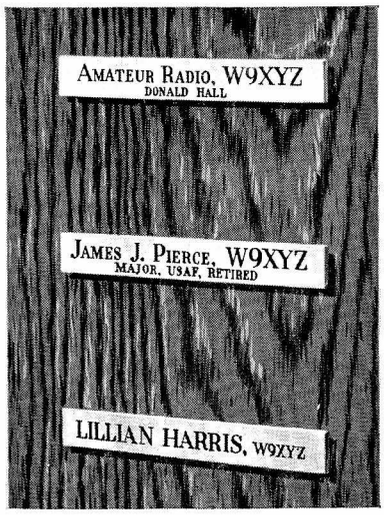

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Check correct boxes below

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☐ Desk ☐ Exec. without pen ☐ Exec. with pen ☐ Door ☐ MiniMarker	☐ Aluminum ☐ Brass ☐ Bronze	☐ Large letters over small ☐ Small letters over large ☐ Both lines small letters (We cannot put two large lines on one plate)	☐ Walnut ☐ Birch ☐ Ebony

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*F.E.T..... .65
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Ear Rings

Item 4-G, 20K gold plated
Item 4-R, Rhodium plated
(Specify screw or clip type)
Each Pair.....$10.00
*F.E.T..... 1.00
$11.00

Pin *(with safety catch)*

Item 6-G, 20K gold plated
Item 6-R, Rhodium plated
Each.....$6.50
*F.E.T..... .65
$7.15

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$6.60

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This log lists all countries having licensed radio amateurs by prefix. Ample space is provided to make a permanent record of all DX stations worked; showing the date, call letters, frequency and whether a QSL card has been sent or received. All countries that qualify for DXCC are listed.

WORLD MAP SHOWING RADIO AMATEUR PREFIXES
This is an outline map of the world with all radio amateur prefixes. Total size 15 x 10 inches. Excellent for mounting.

GREAT CIRCLE MAPS
Three great circle maps are included centered on San Francisco, California; the center of the United States and New York, N. Y.

GREAT CIRCLE OUTLINE CHART OF THE UNITED STATES
Published by the U. S. Coast and Geodetic Survey, it is possible to determine the great circle bearing between any two points in the United States, with the proper use of this map.

PREFIX MAP OF SOUTH AMERICA
An outline map of South America showing the number or letter designating all sections and countries. Very handy for determining just what part of each country is heard or worked.

ARRL SECTION MAP
One copy of this map is included which shows all of the ARRL sections in the United States. These maps can be used for checking off the different sections worked during ARRL contests.

GREAT CIRCLE BEARING TABLES
Each of these bearing tables are printed on a separate sheet which is perforated for easy removal of the one nearest to your location. Over 250 bearings are shown on each table and where cities are listed the bearing to the nearest degree is given. Bearings are included on the following points: Atlanta, Ga.; Boston, Mass.; Buffalo, N. Y.; Chicago, Ill.; Center of the USA; Denver, Colo.; Detroit, Mich.; Houston, Tex.; Jacksonville, Fla.; Kansas City, Mo.; Los Angeles, Cal.; Louisville, Ky.; Miami, Fla.; Minneapolis, Minn.; New Orleans, La.; San Francisco, Cal.; Seattle, Wash.

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Exact bearings are shown in this table to the nearest degree, from 39 cities in the USA to the same number of metropolitan areas throughout the world.

GREAT CIRCLE BEARINGS IN THE UNITED STATES
This table includes bearings between 39 large cities in the USA. Accurate to the nearest degree it is a valuable aid for VHF work as well as handling traffic through QRM.

TIME CONVERSION TABLE
With this time conversion table you can determine the time in any time zone in the world. Also provision is made to know whether it is today or tomorrow at the place heard or worked.

TIME THROUGHOUT THE WORLD
This page includes a list of time zones of countries the world over and an explanation of the International Time Zone System. Compiled by the National Bureau of Standards.

AIR LINE DISTANCES IN THE UNITED STATES
Arranged in alphabetical order, this page shows the air line distance between 39 cities in the United States. Compiled from information prepared by the U. S. Coast and Geodetic Survey.

INTERNATIONAL Q SIGNALS
All of the "Q" signals have been arranged on one page for instant reference.

POSTAL INFORMATION
This page shows the postal rates for QSL cards, first class and air mail letters to all foreign countries. Also the number of international reply coupons for sufficient postage for a return air mail letter is shown for most countries.

WORLD WIDE QSL BUREAUS
A complete list of all of the International QSL Bureaus, right up to date, are shown, compiled from the records of the CALLBOOK.

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Official list of ARRL DX contest and postwar DXCC. Courtesy ARRL.

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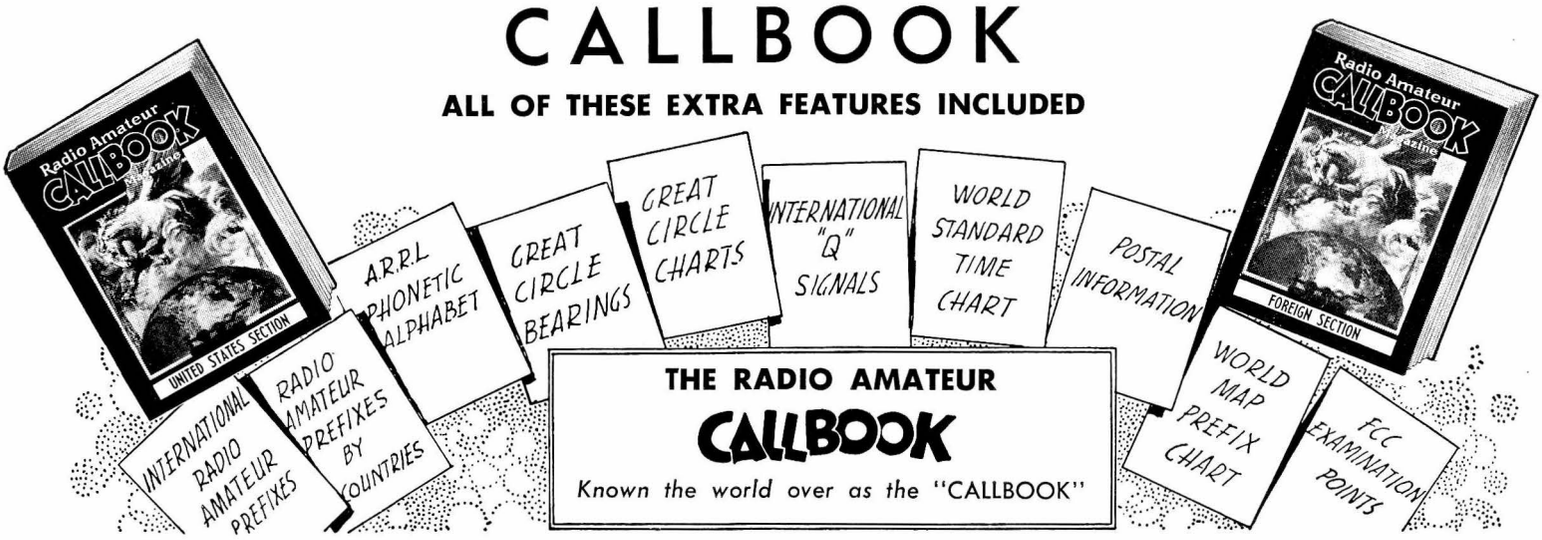

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( ) Winter	( ) Winter	( ) Winter	( ) Winter

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